

FIG. 1A

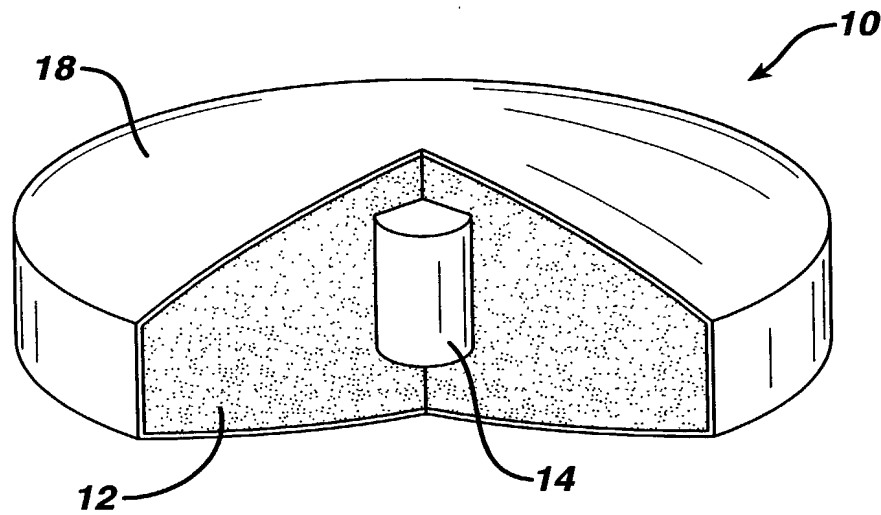
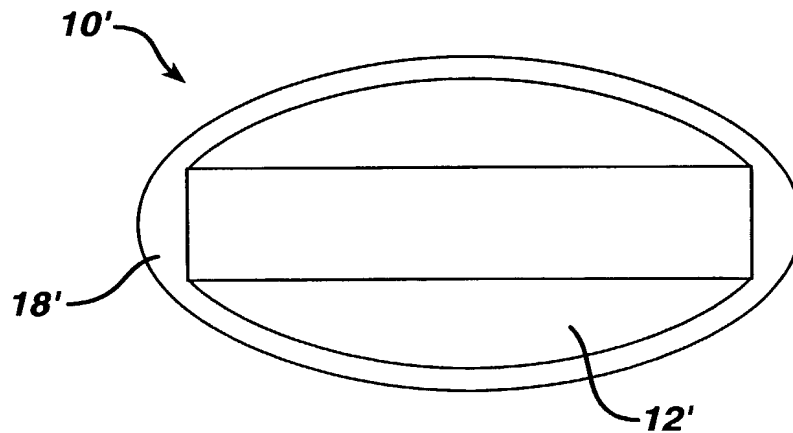


FIG. 1B



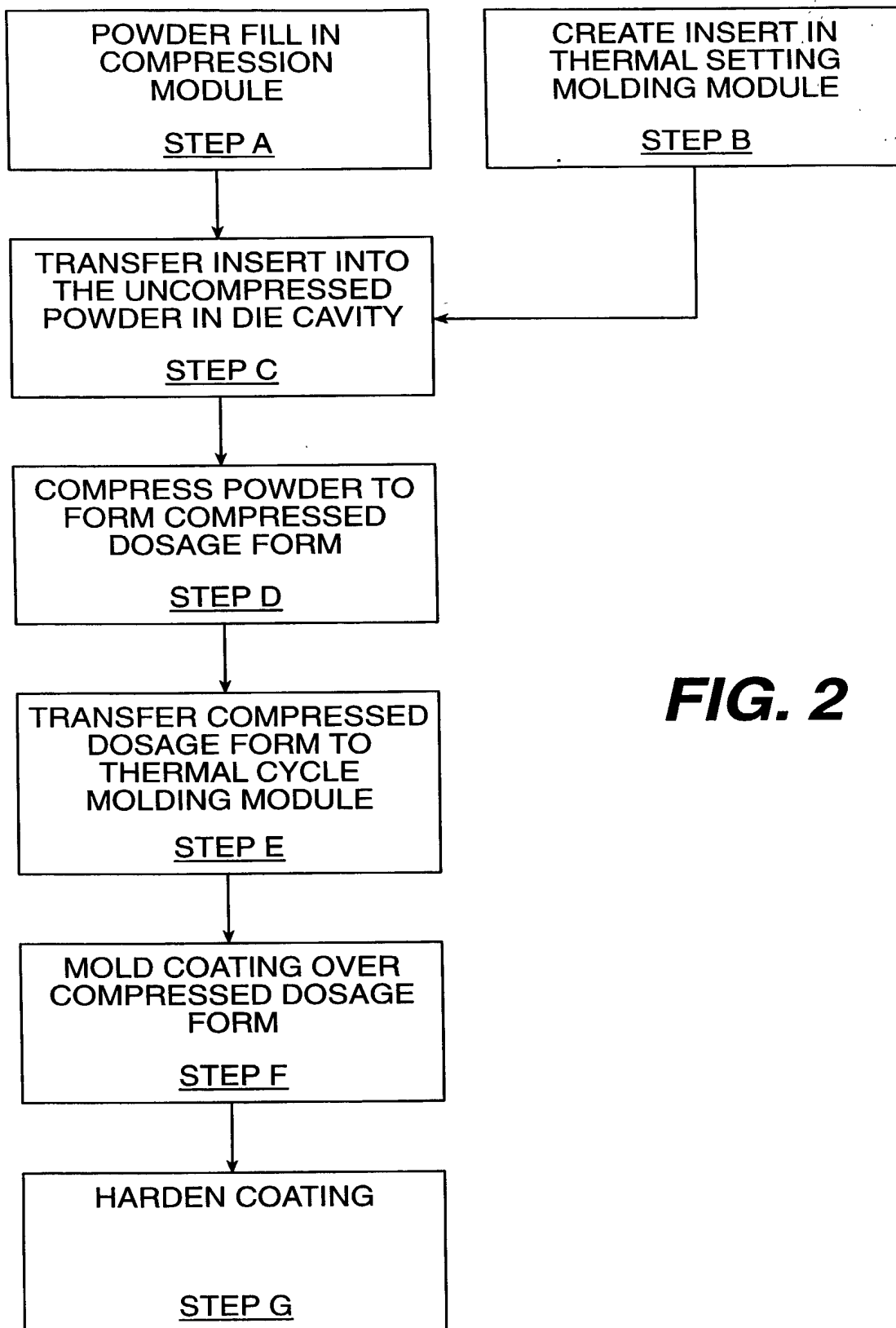
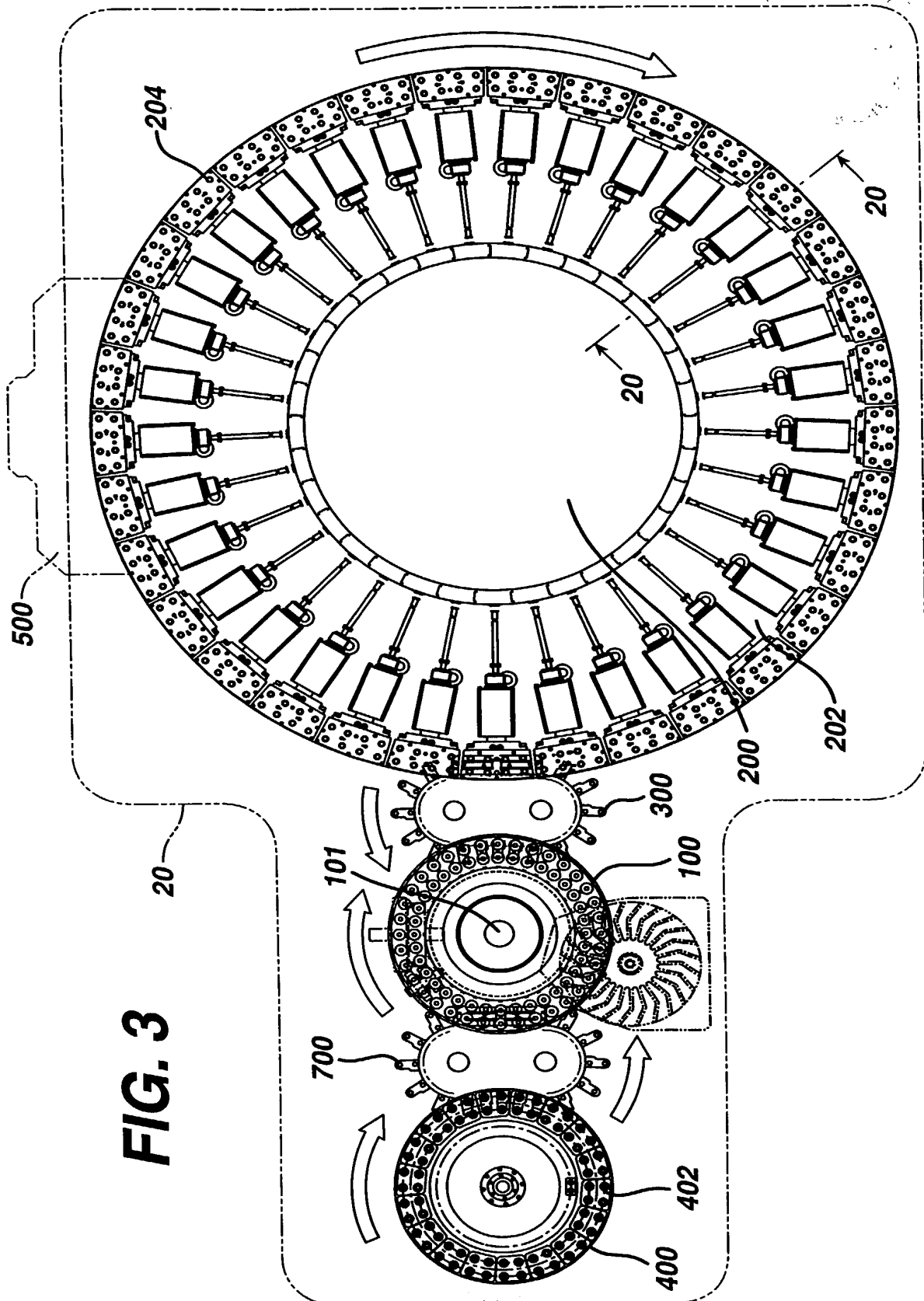


FIG. 2

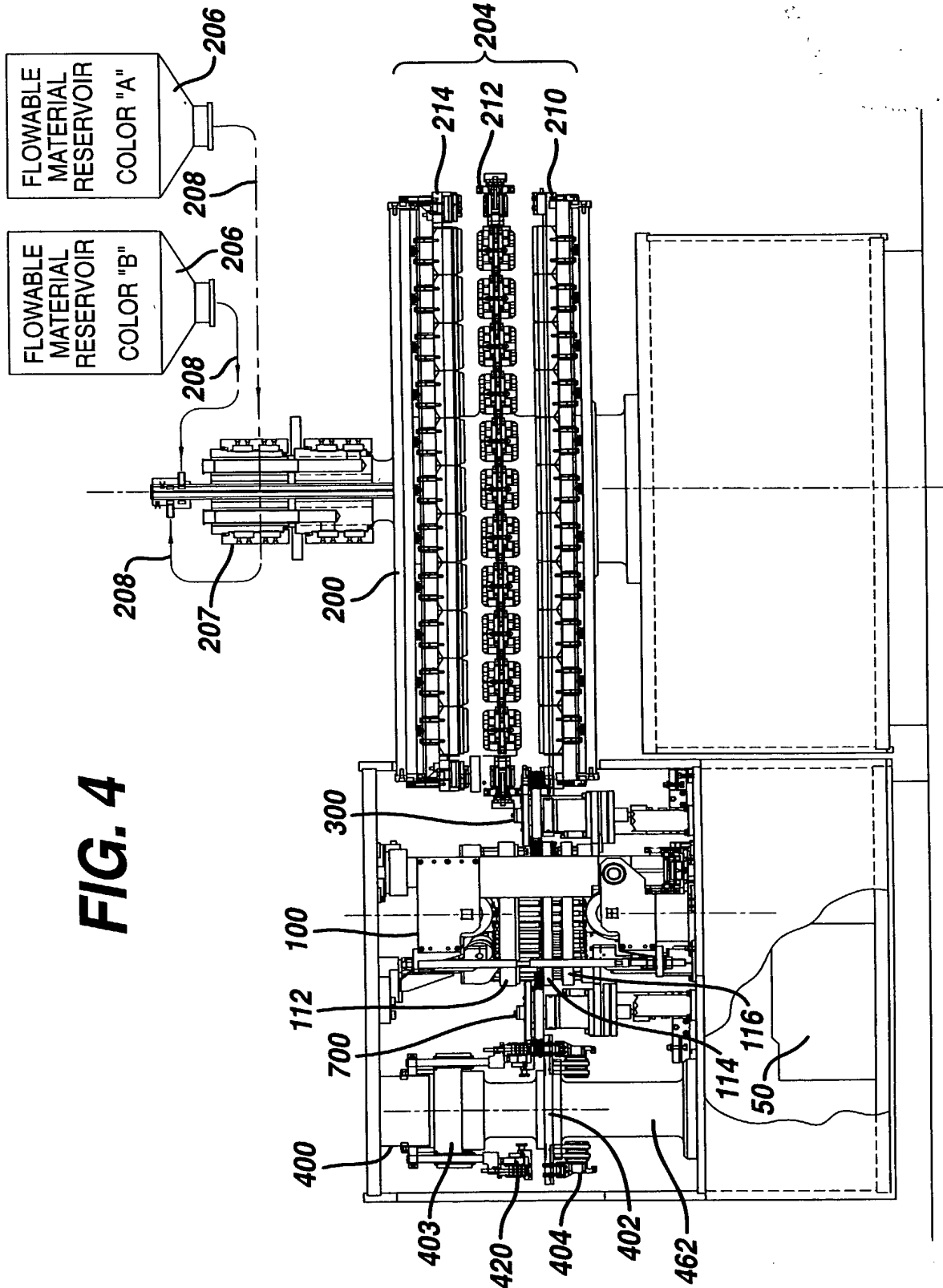
TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

3/80



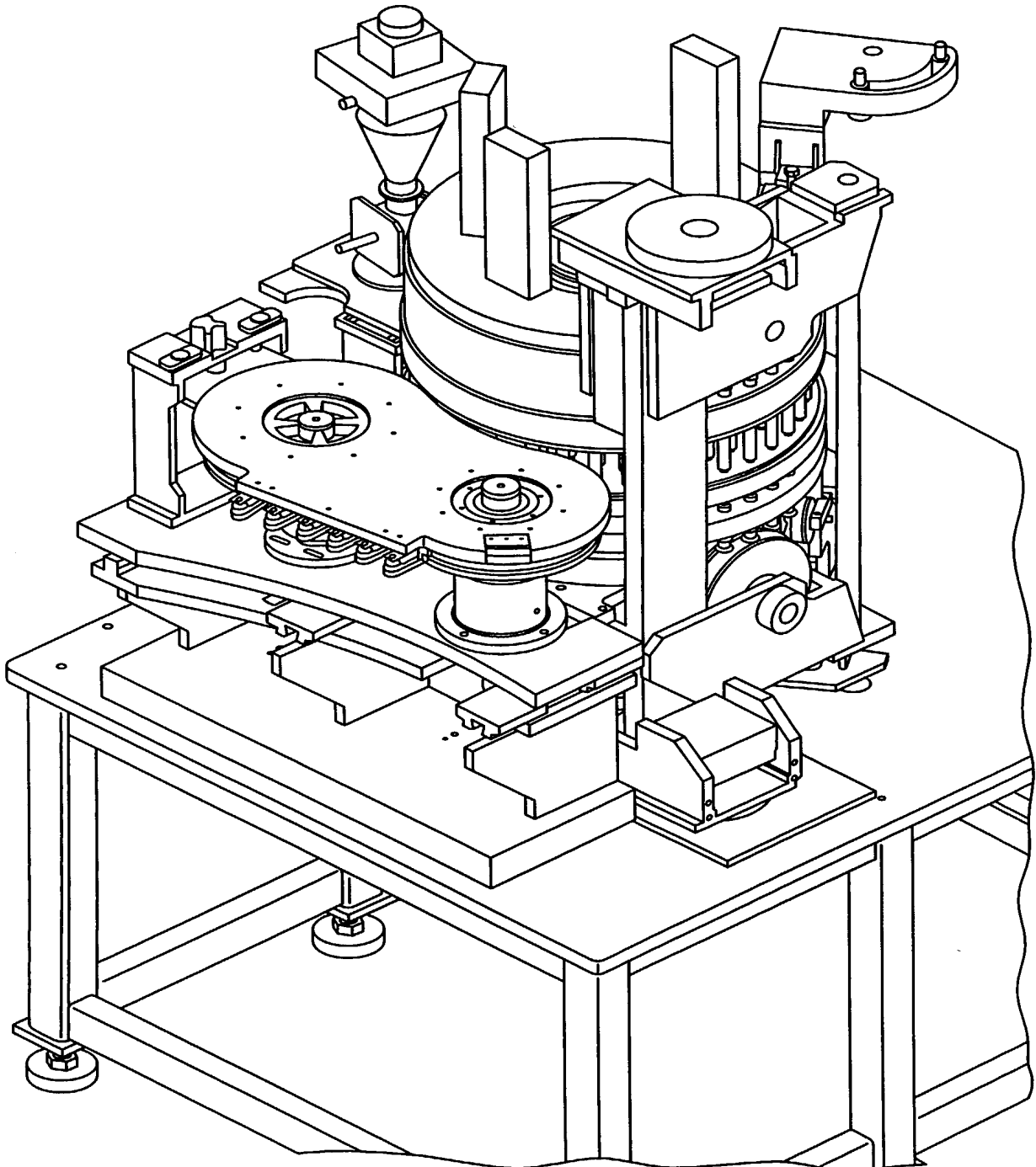
TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

4/80



TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

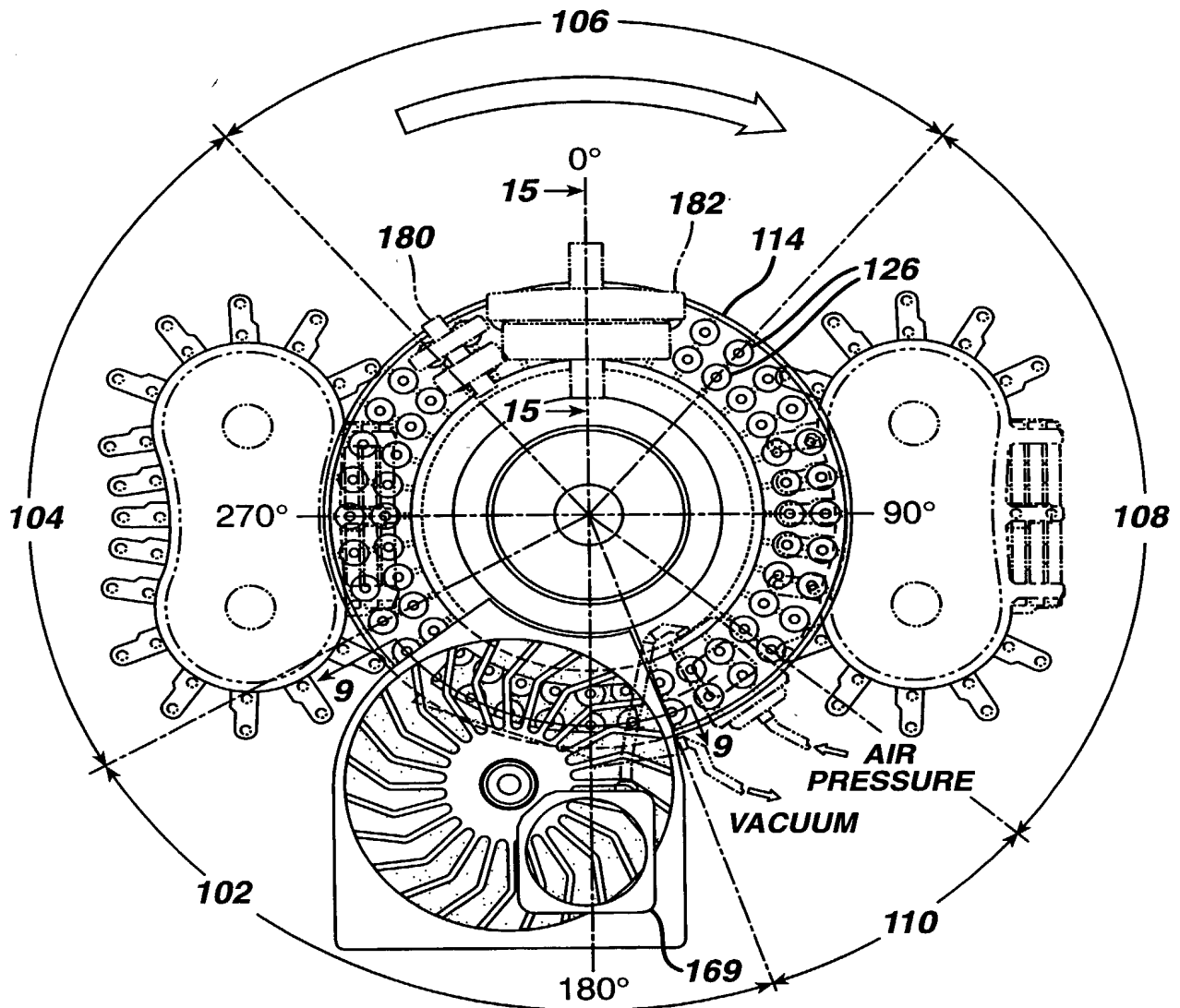
5/80

FIG. 5

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

6/80

FIG. 6



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

7/80

FIG. 7

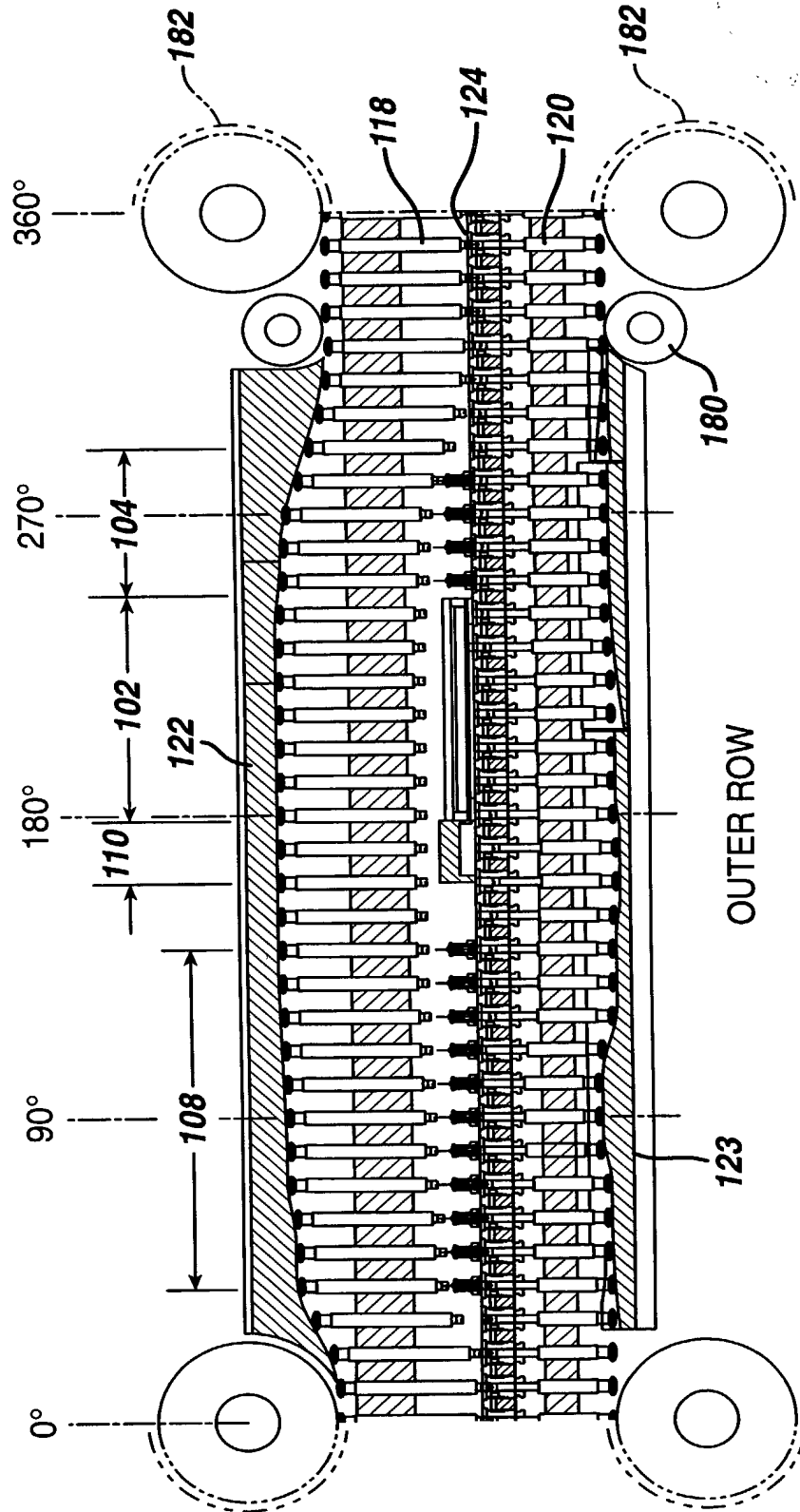


FIG. 8

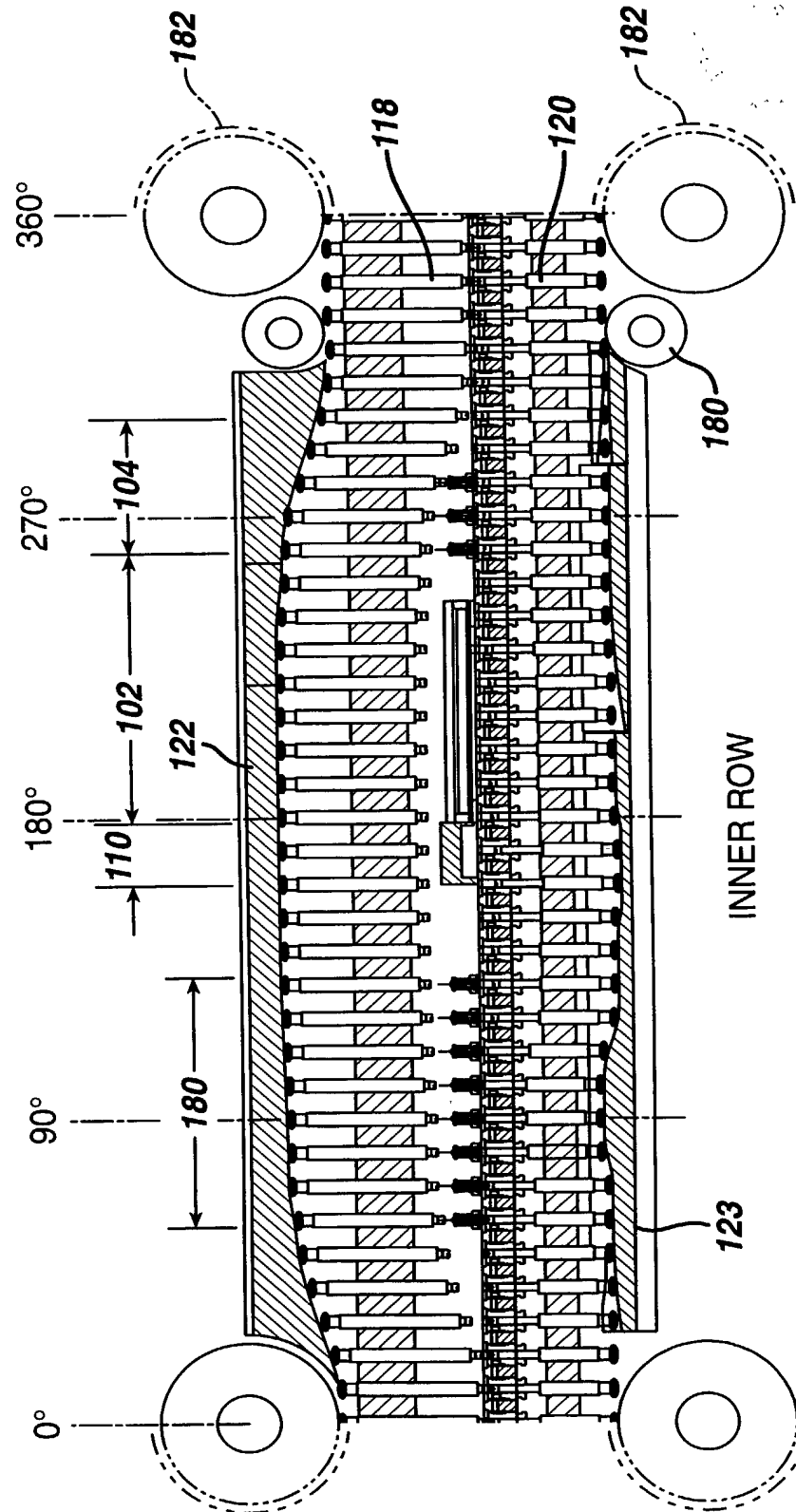
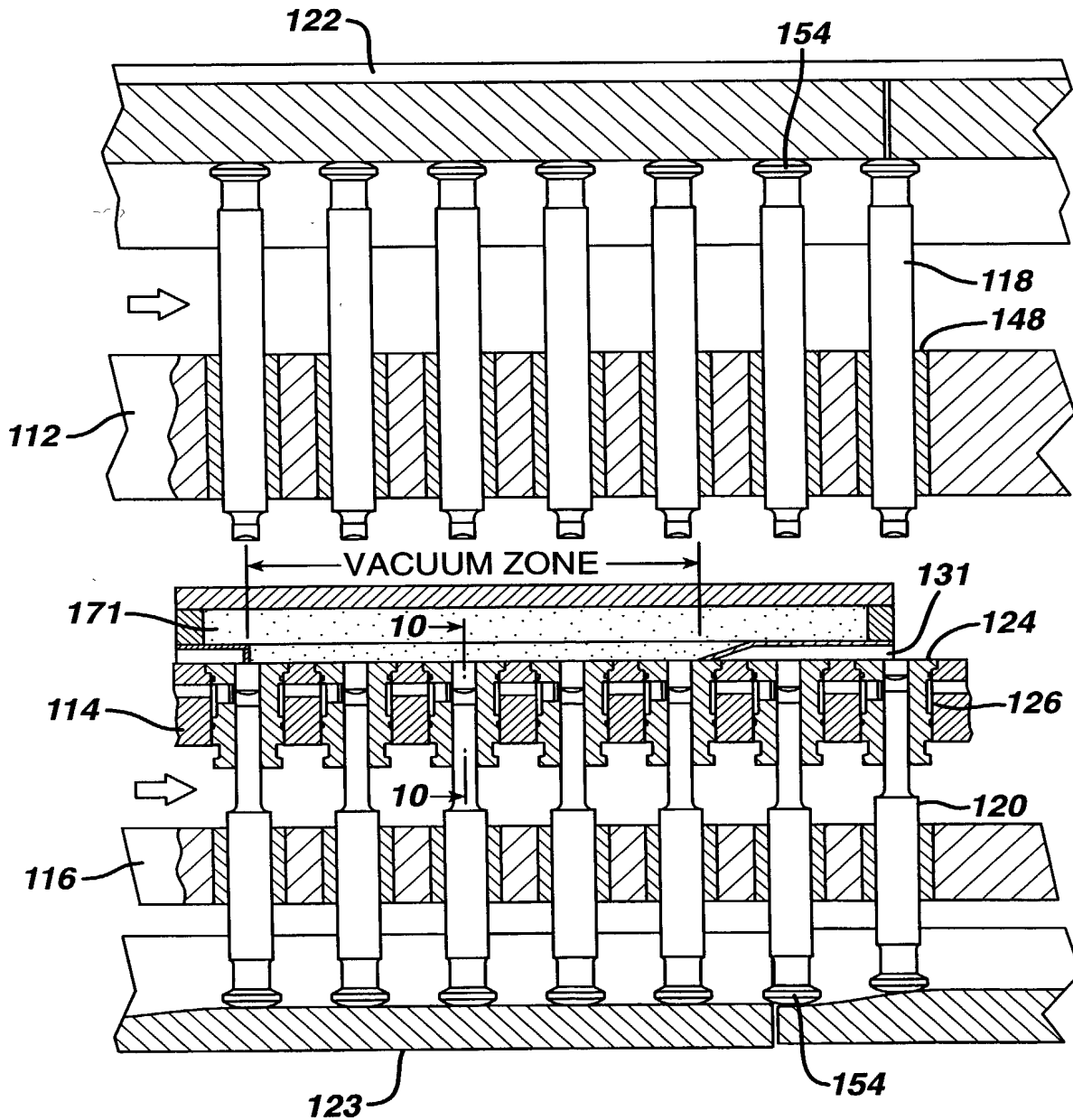


FIG. 9



10/80

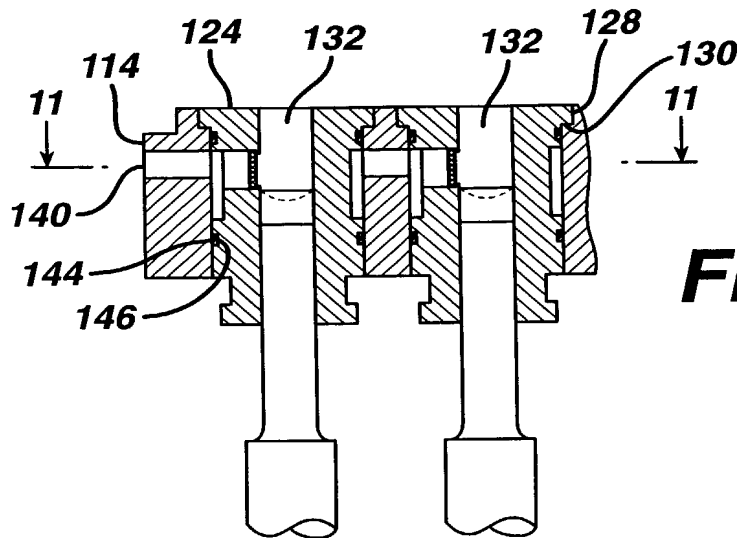
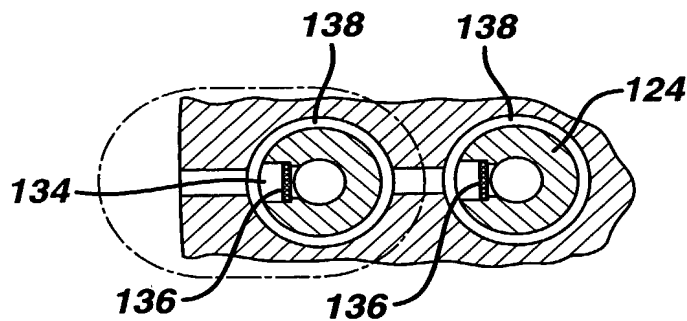
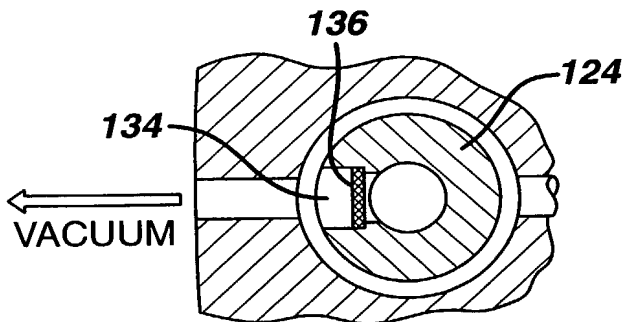
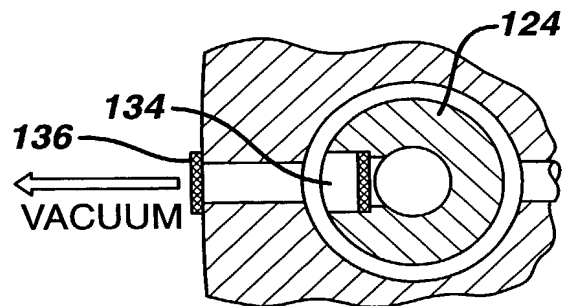
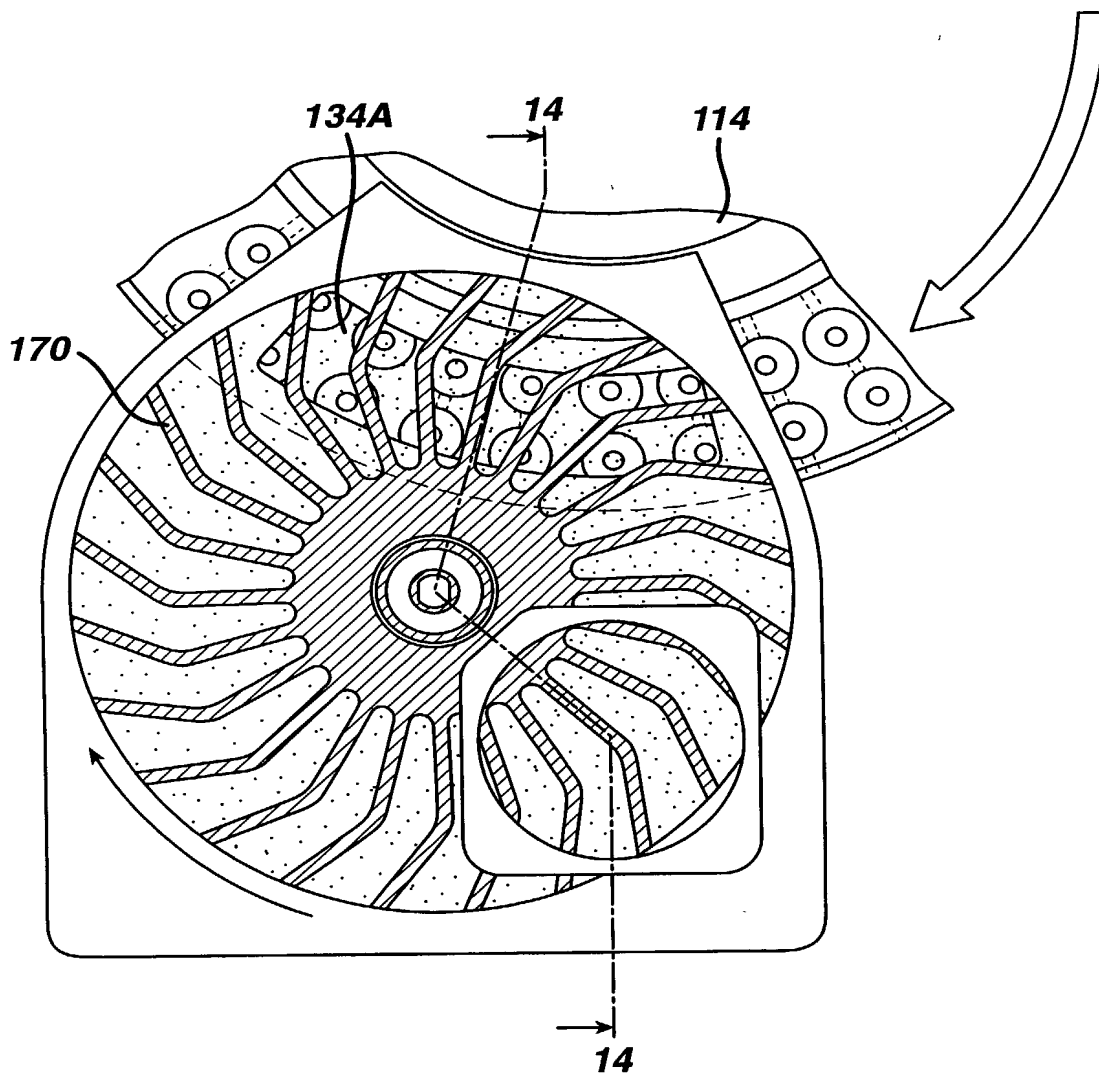
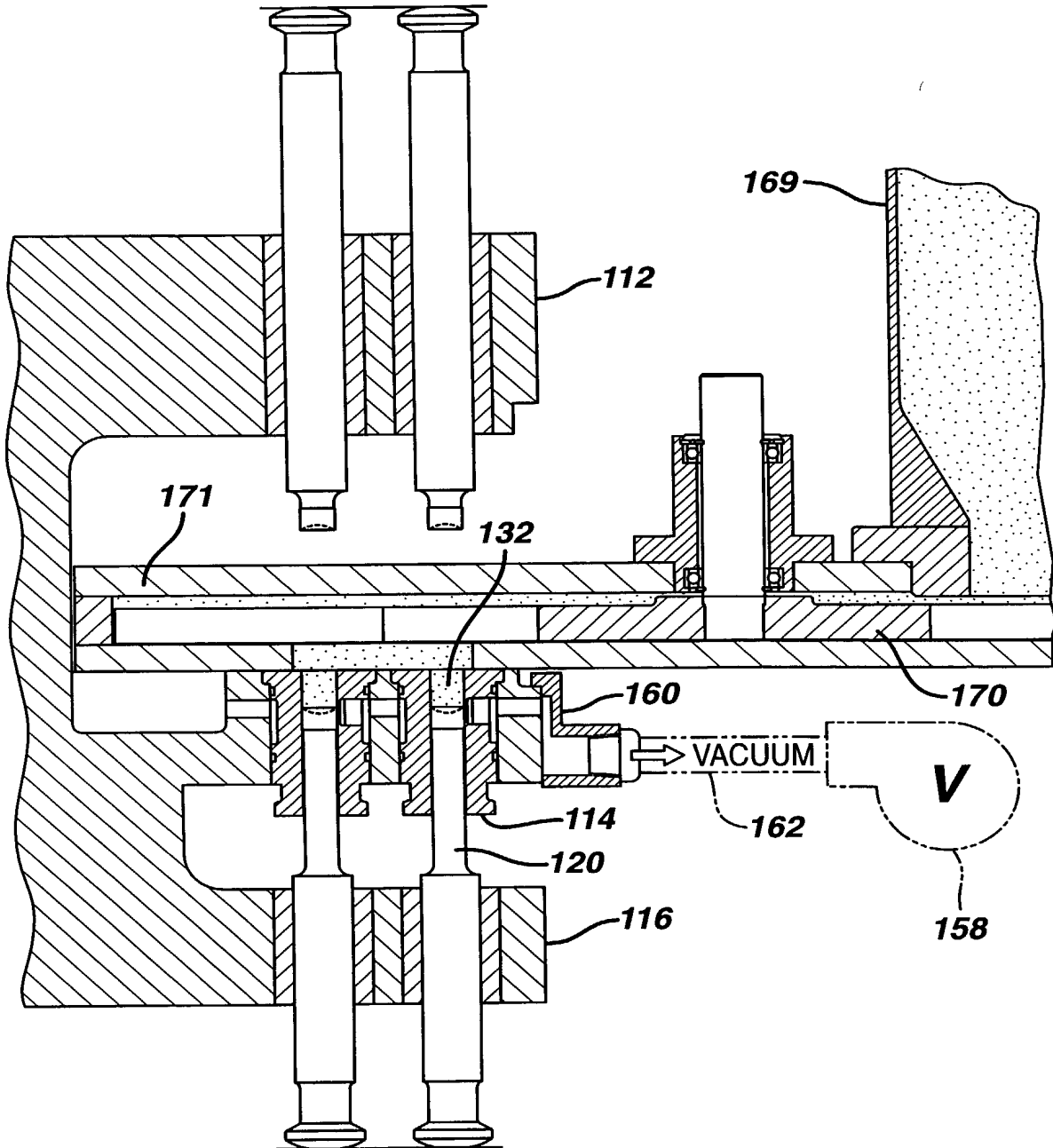
**FIG. 10****FIG. 11****FIG. 12****FIG. 12A**

FIG. 13

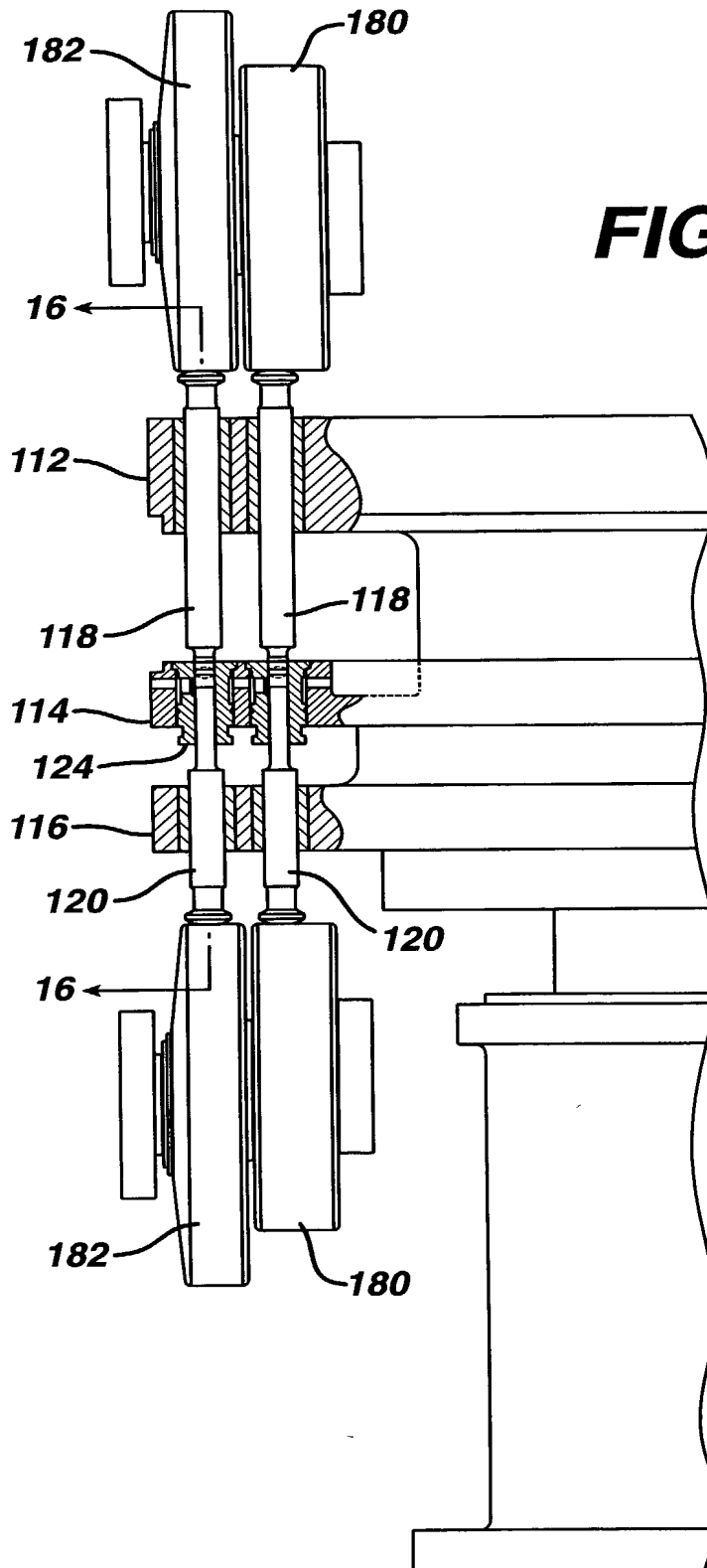


12/80

FIG. 14



13/80



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

14/80

FIG. 16

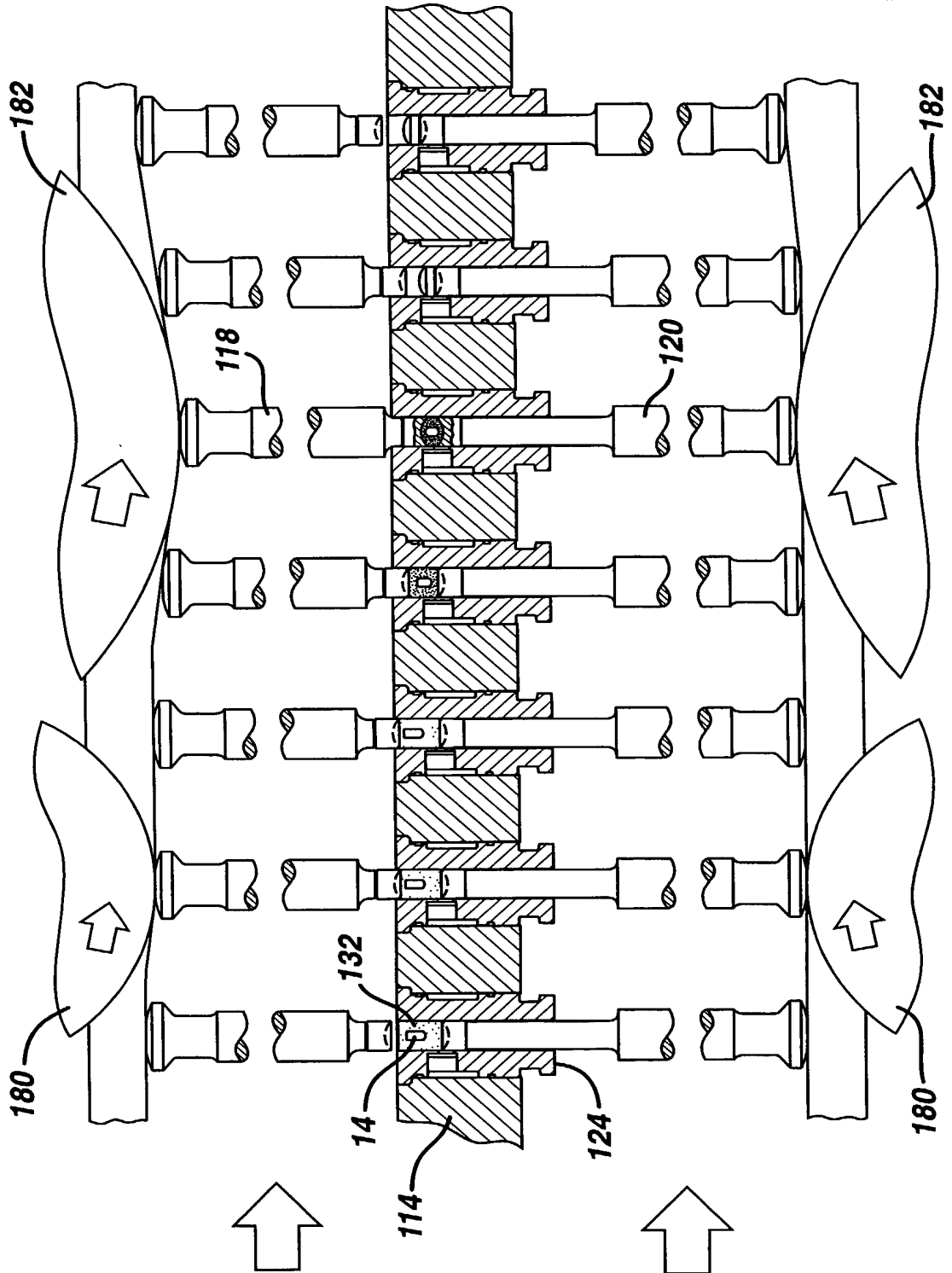
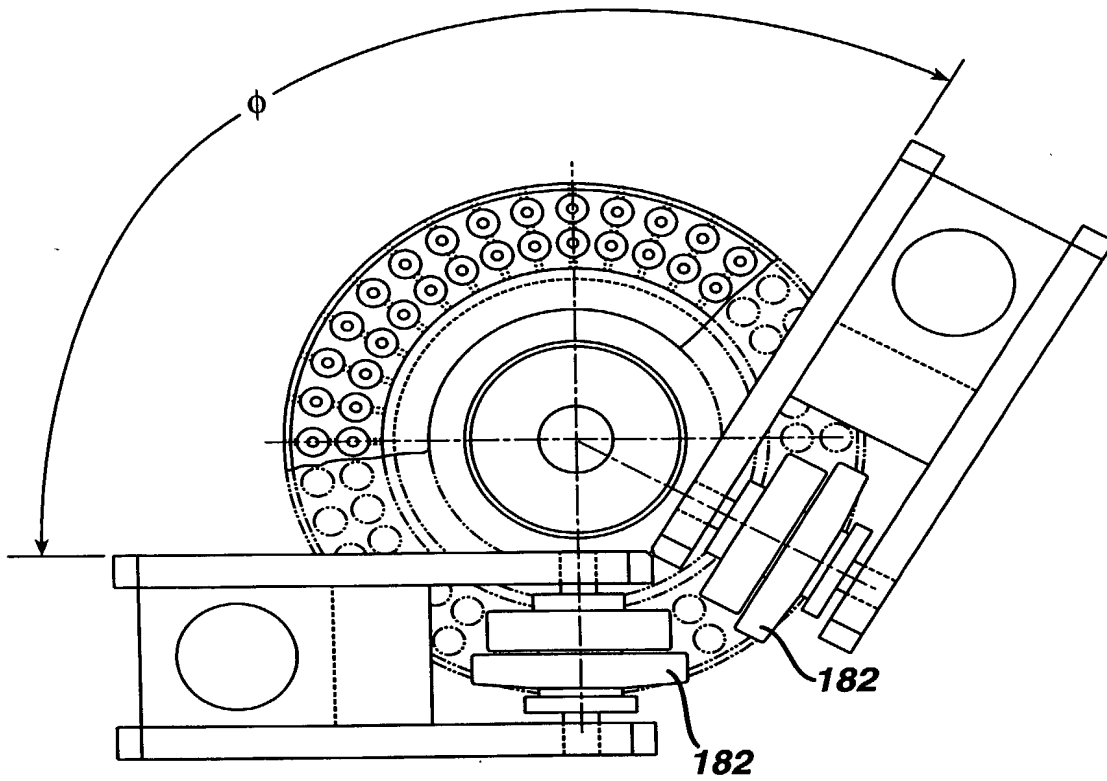
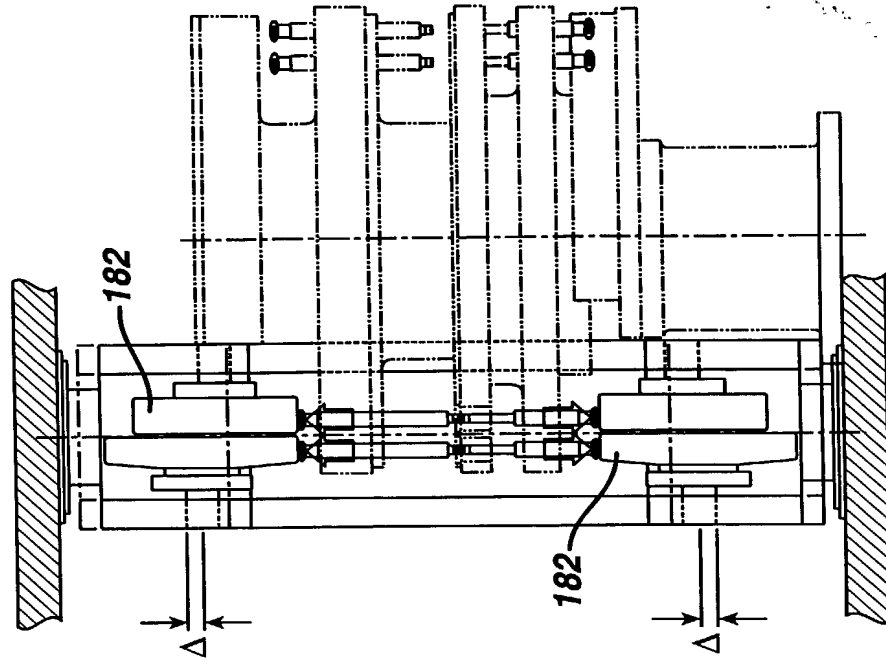
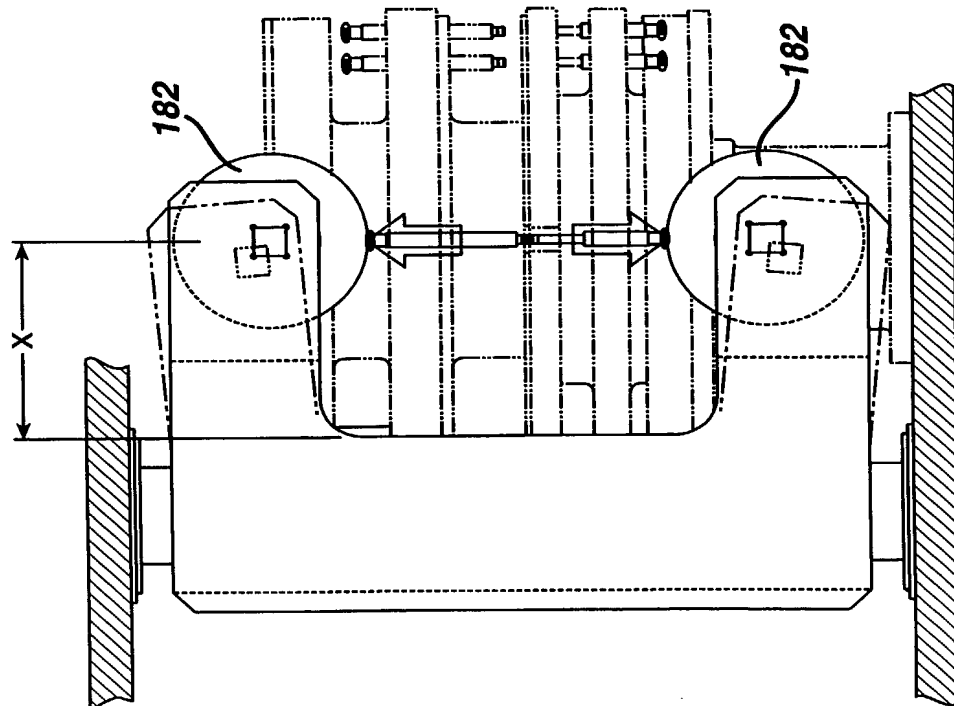


FIG. 17A

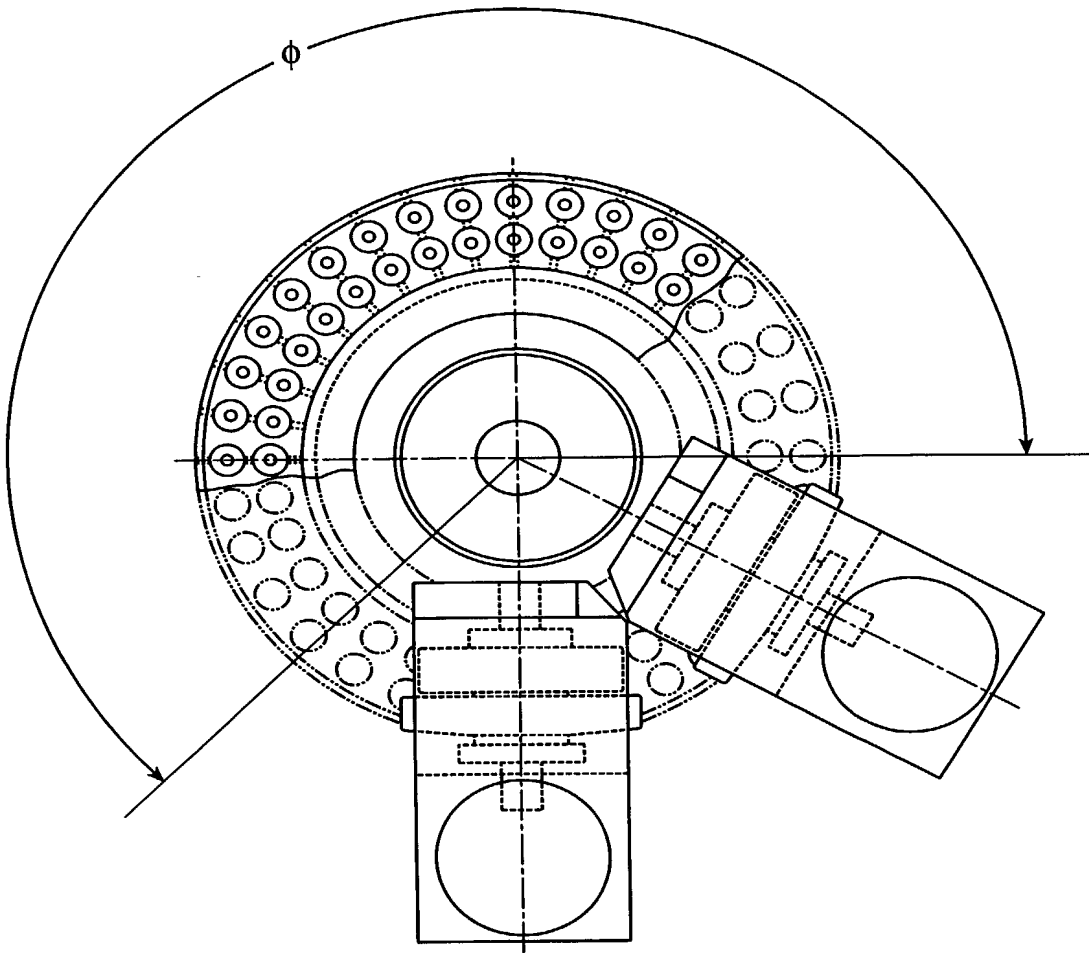
TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

16/80

FIG. 17C**FIG. 17B**

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

17/80

FIG. 18A

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

18/80

FIG. 18C

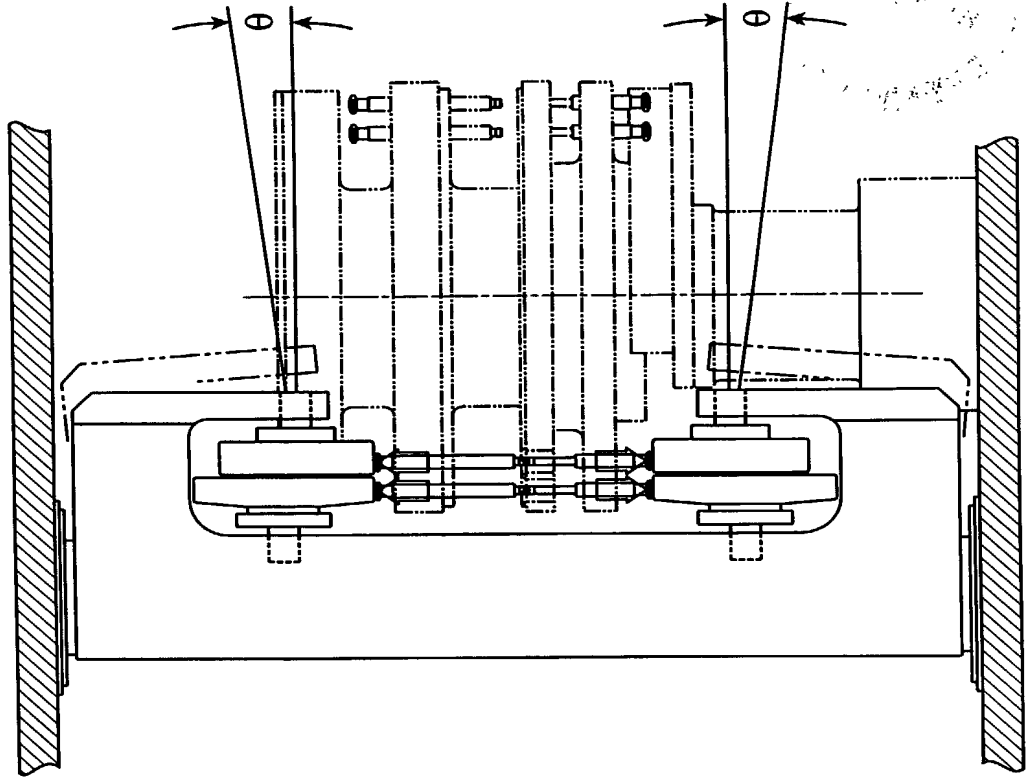
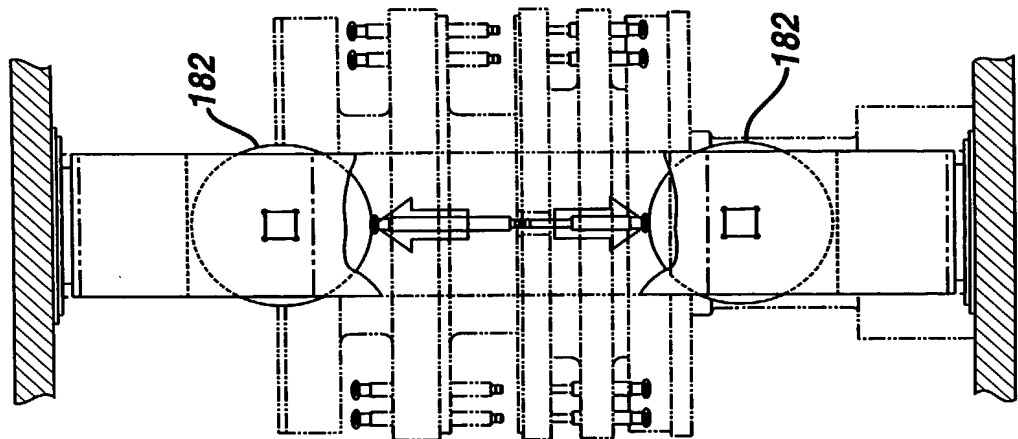


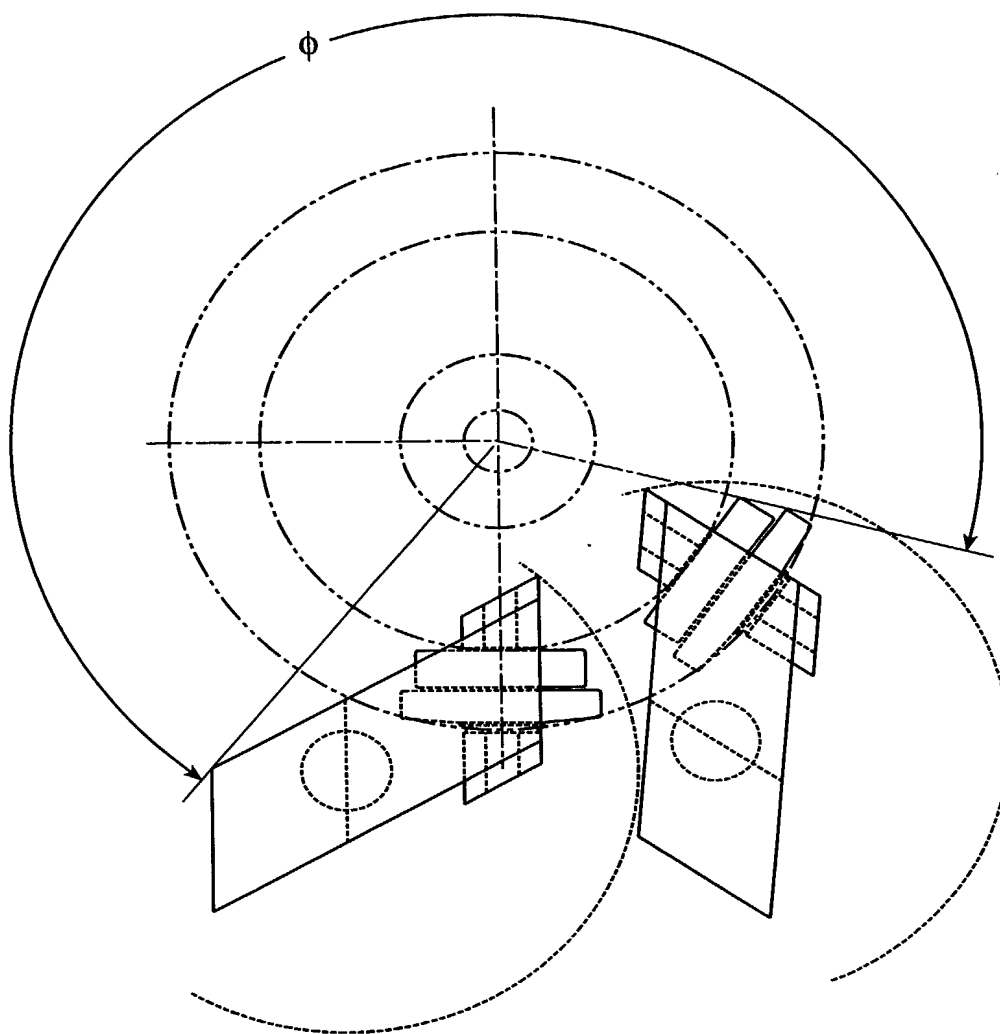
FIG. 18B



09066939 050602
TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

19/80

FIG. 19A



TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

20/80

FIG. 19C

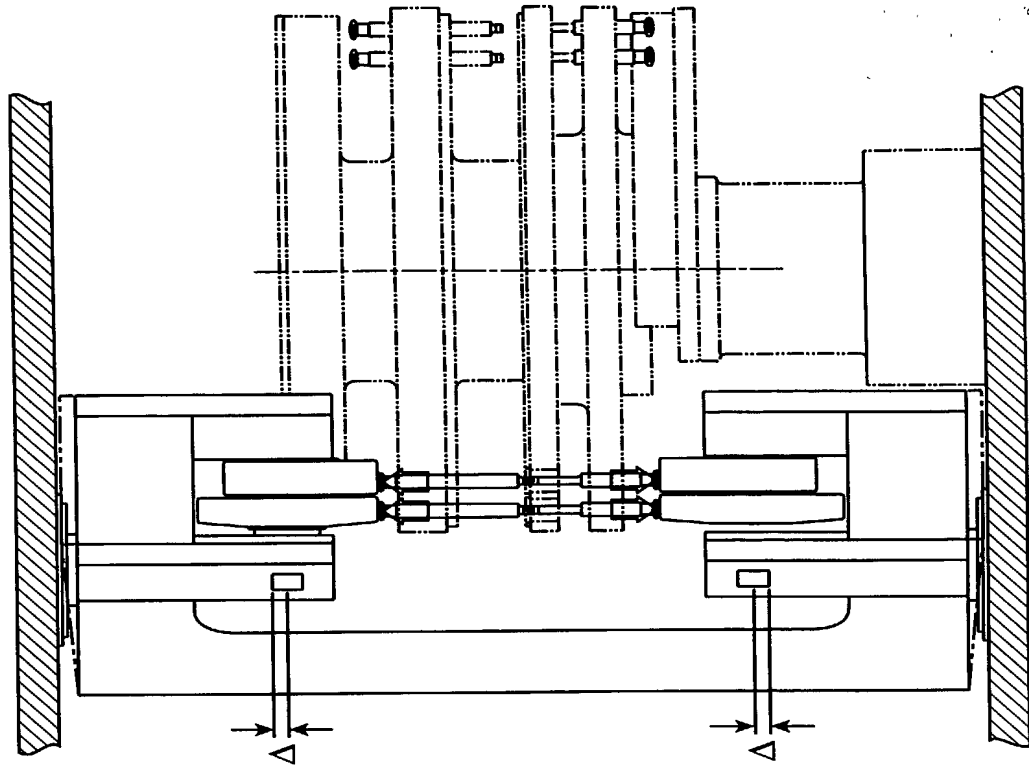
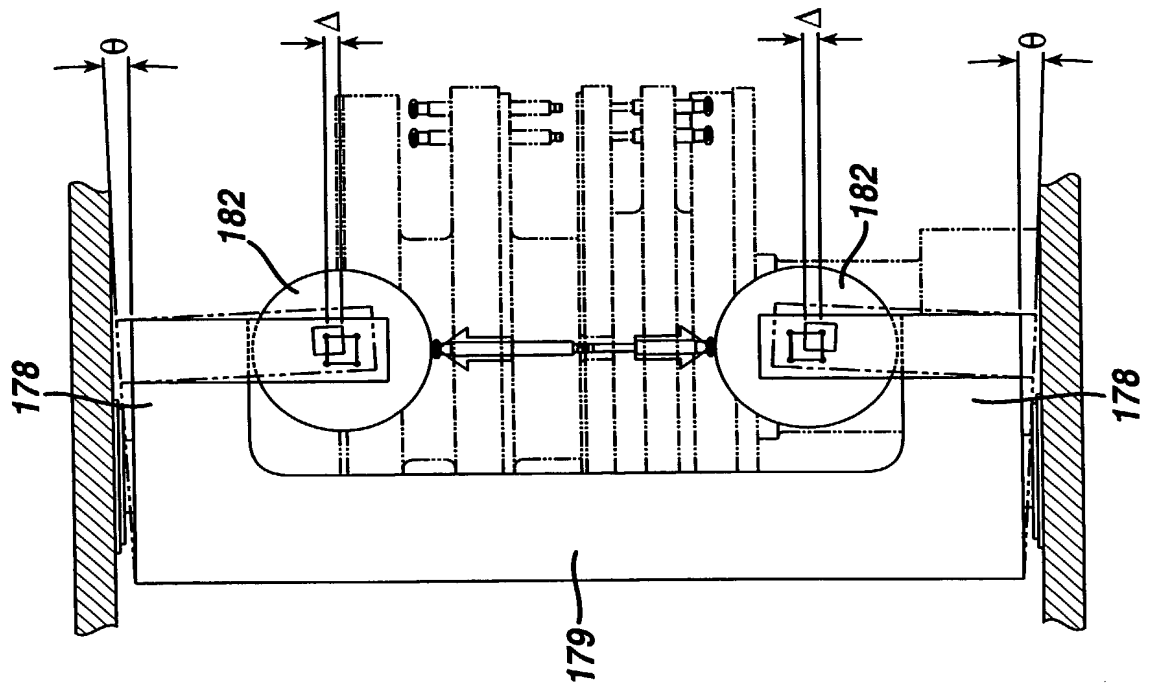


FIG. 19B



09/966939 050606
TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

21/80

FIG. 19D

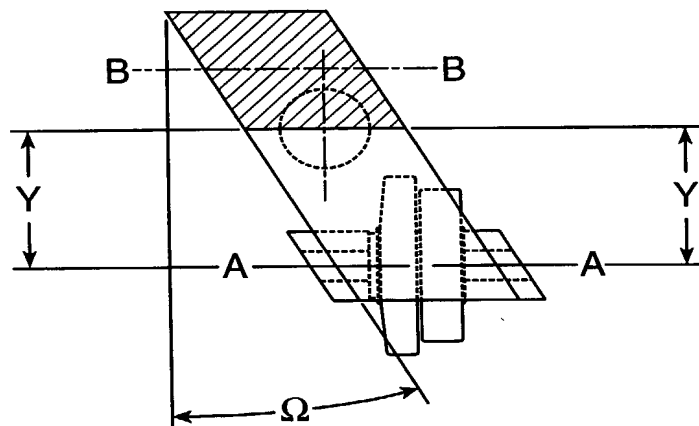


FIG. 20

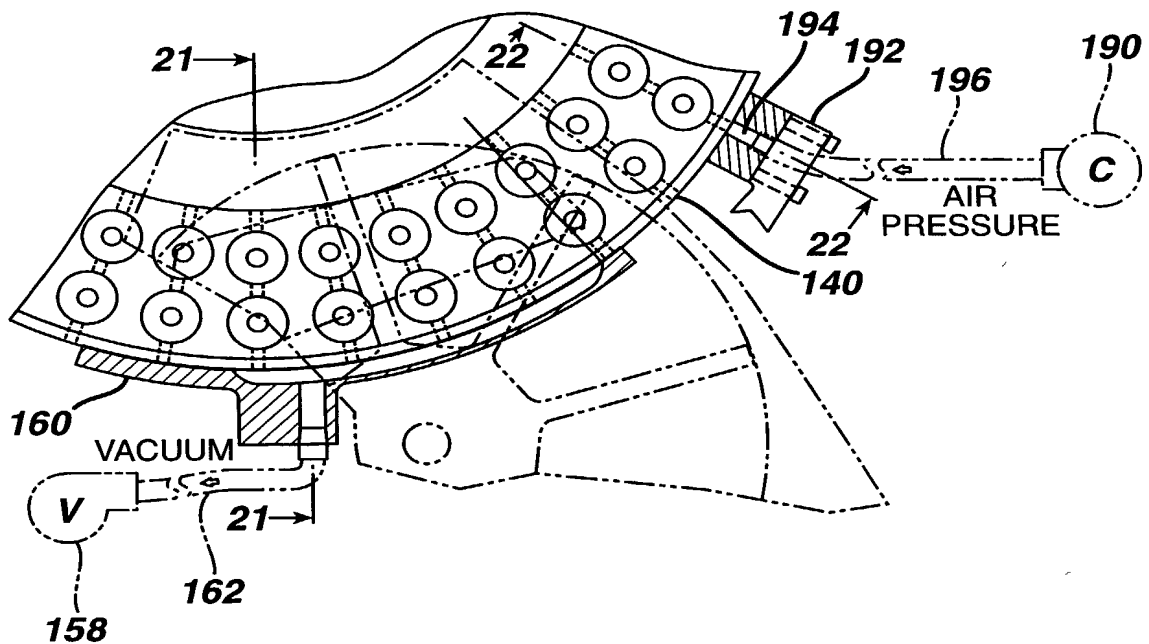


FIG. 21

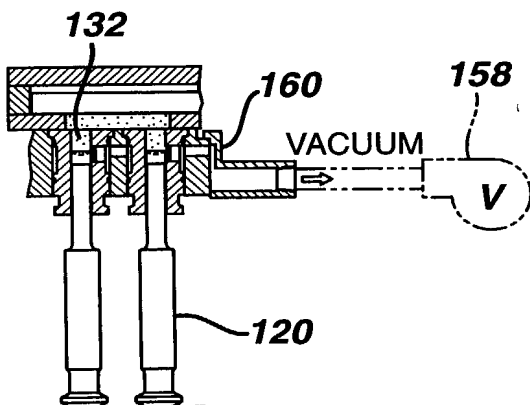
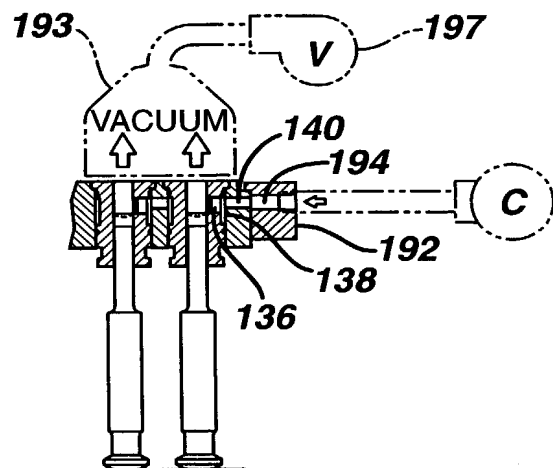


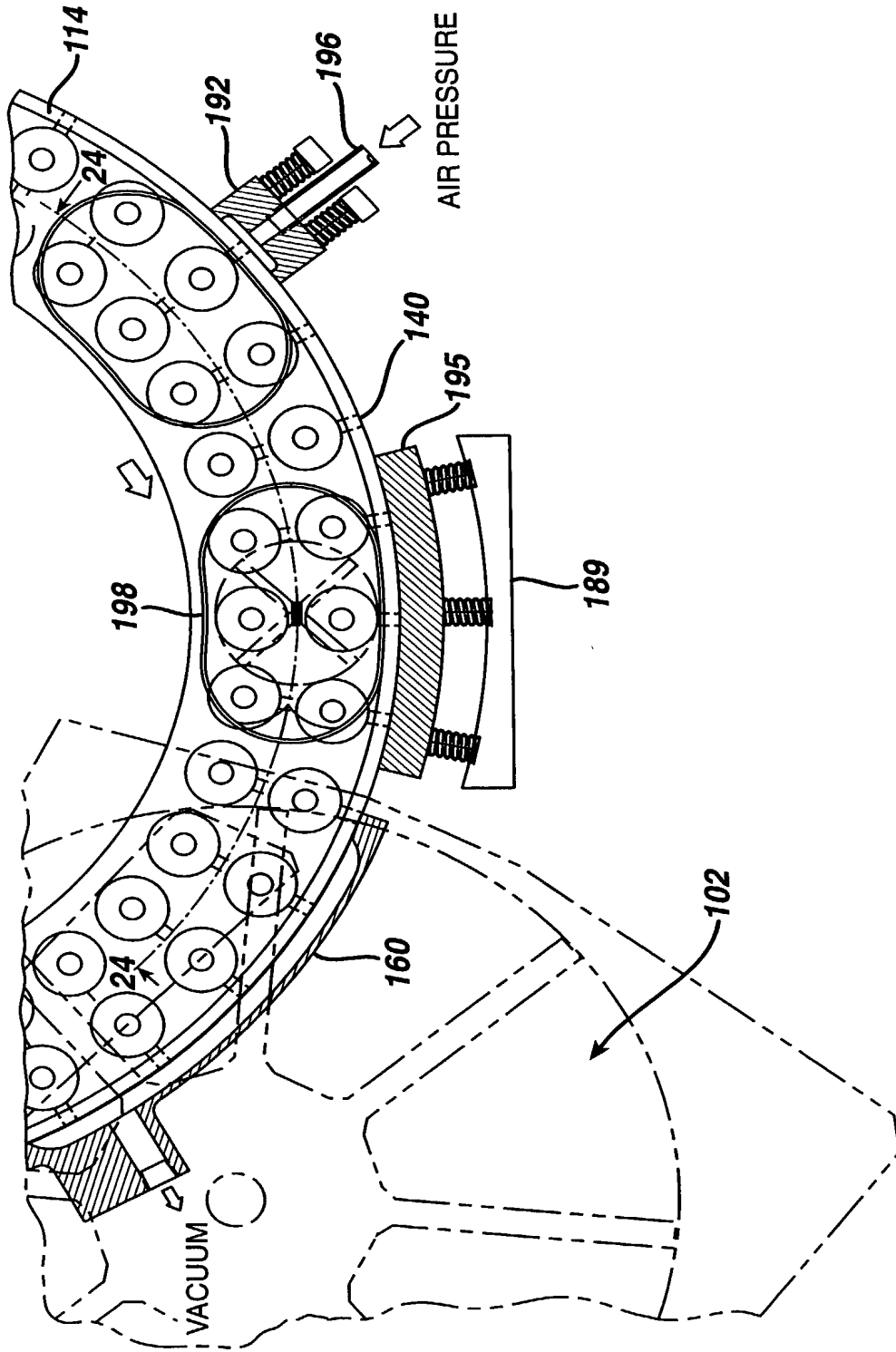
FIG. 22



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

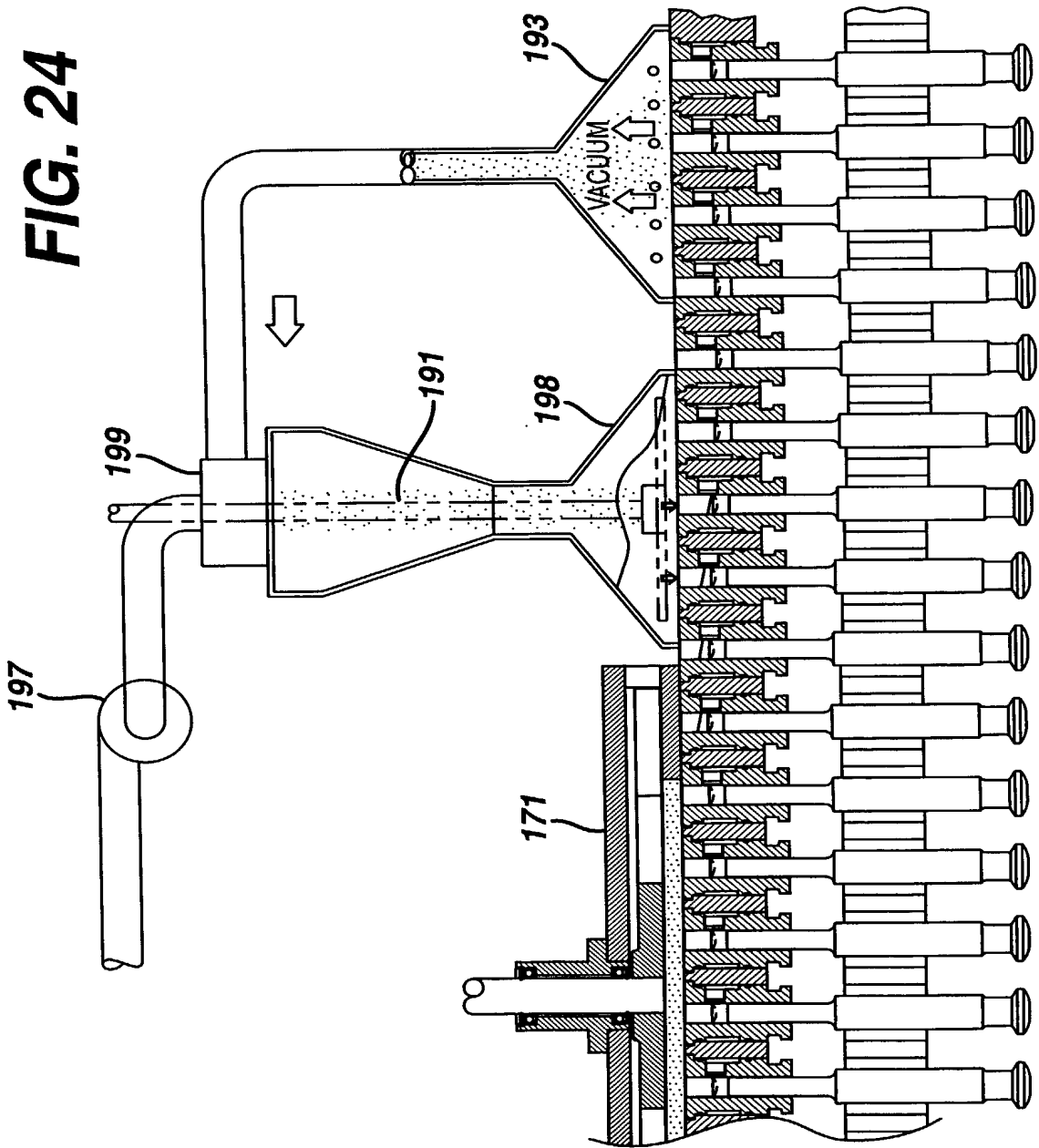
23/80

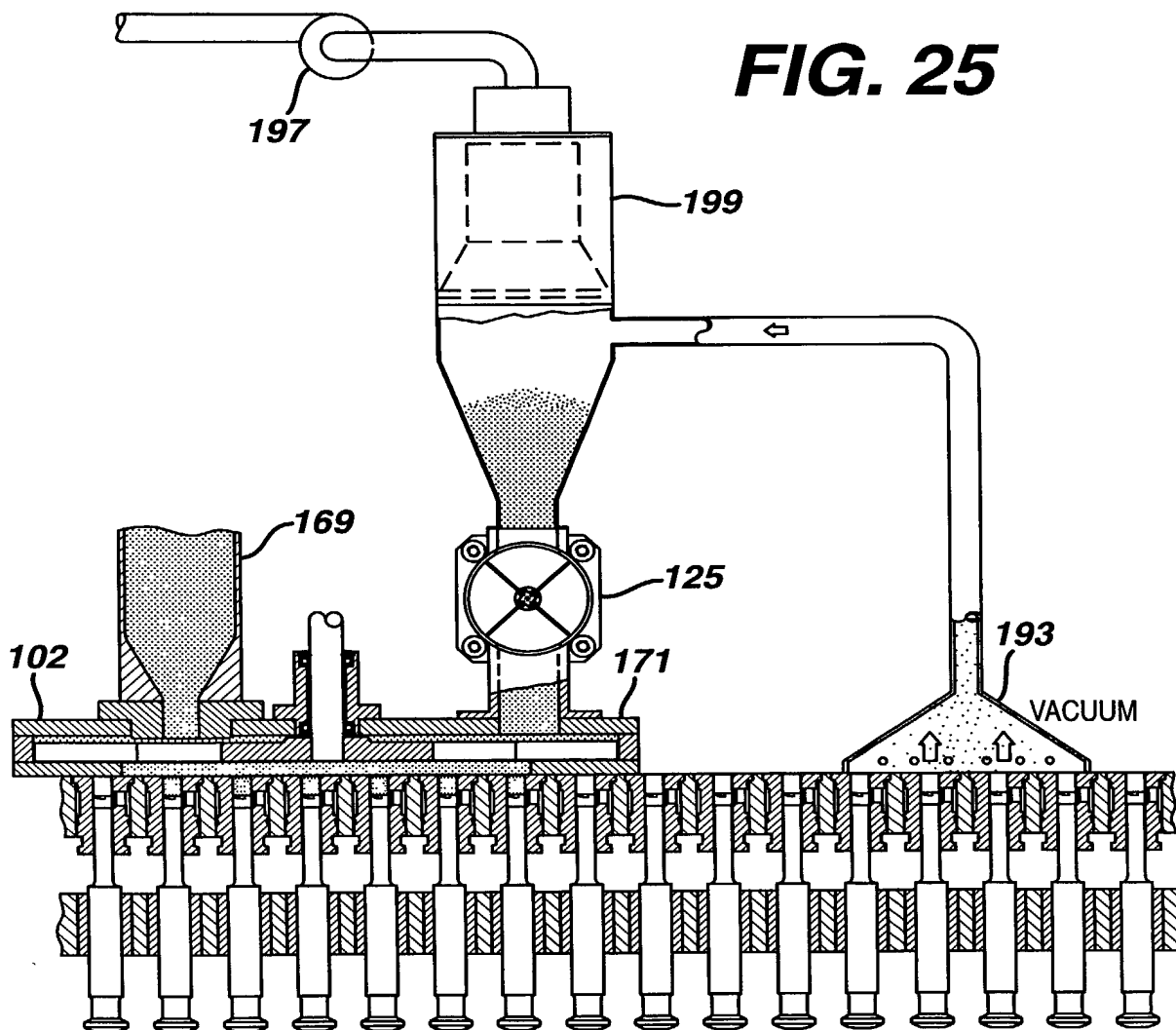
FIG. 23



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

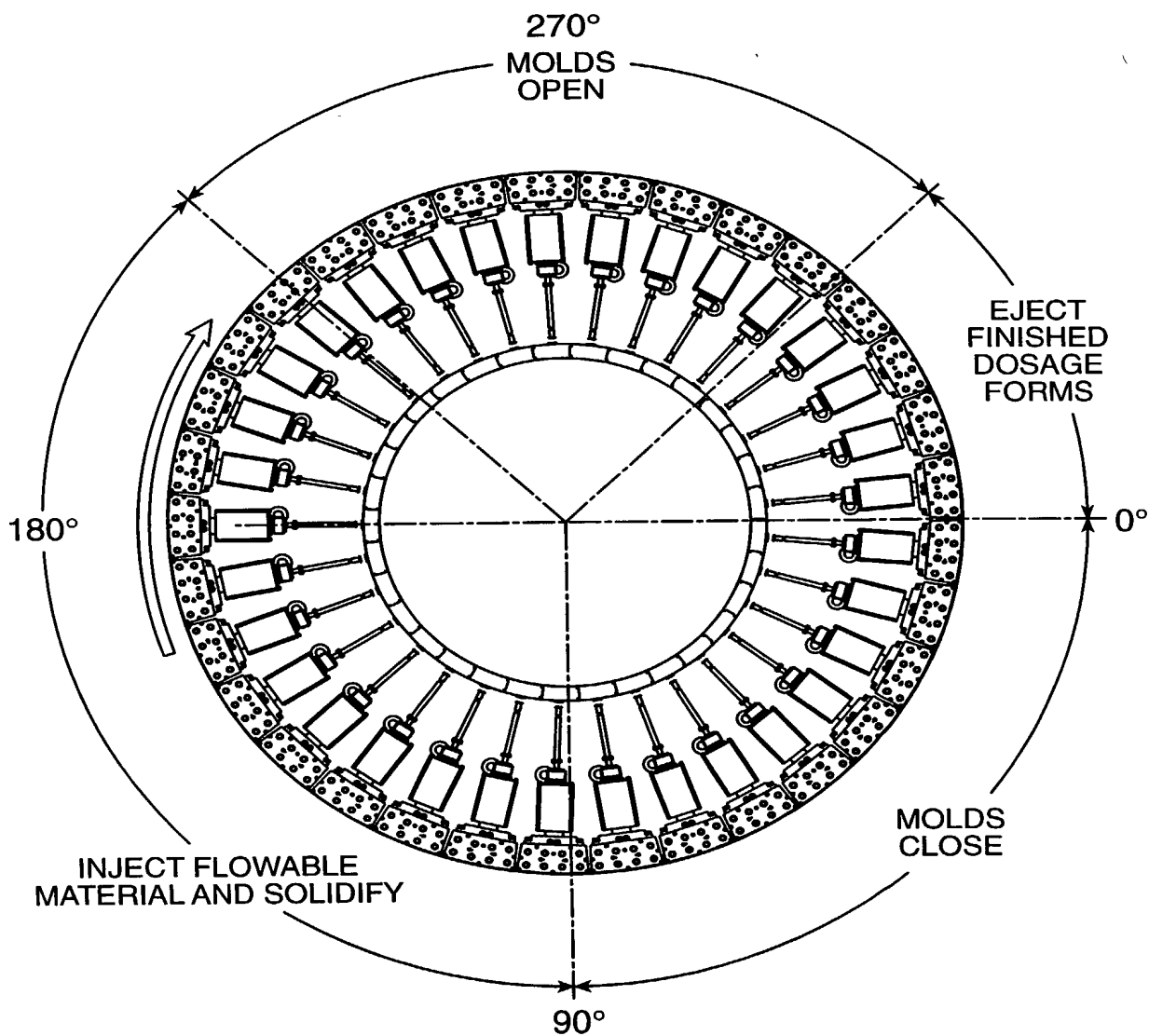
24/80





TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

26/80

FIG. 26A

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

27/80

FIG. 26B

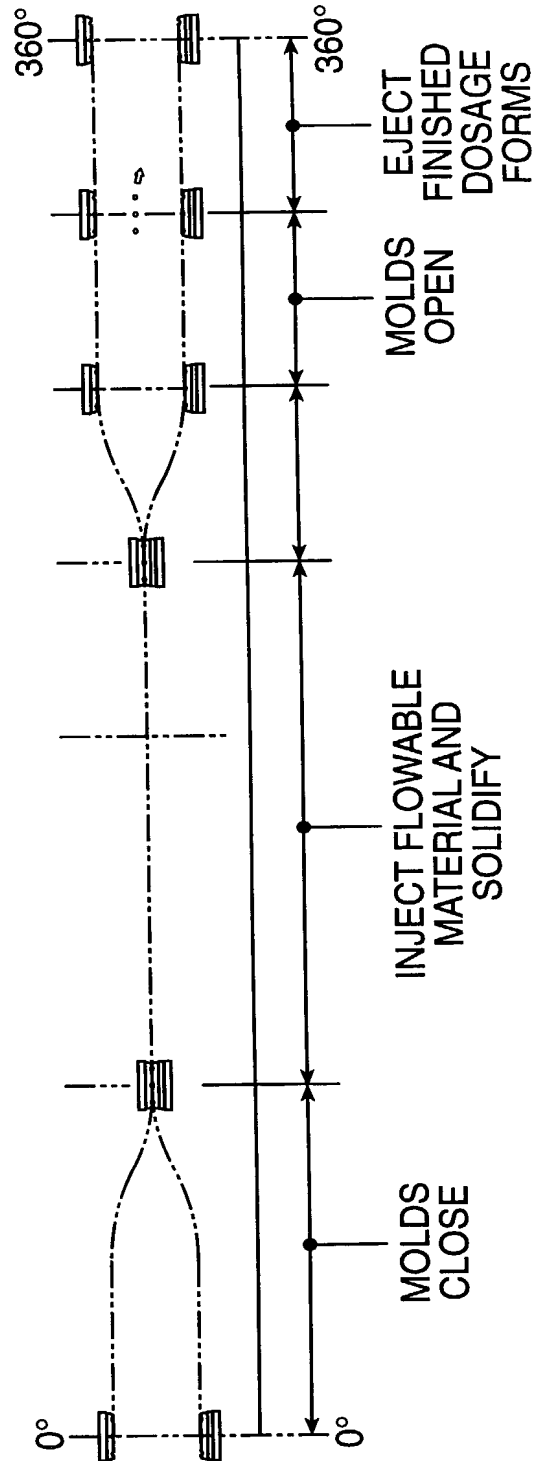


FIG. 26C

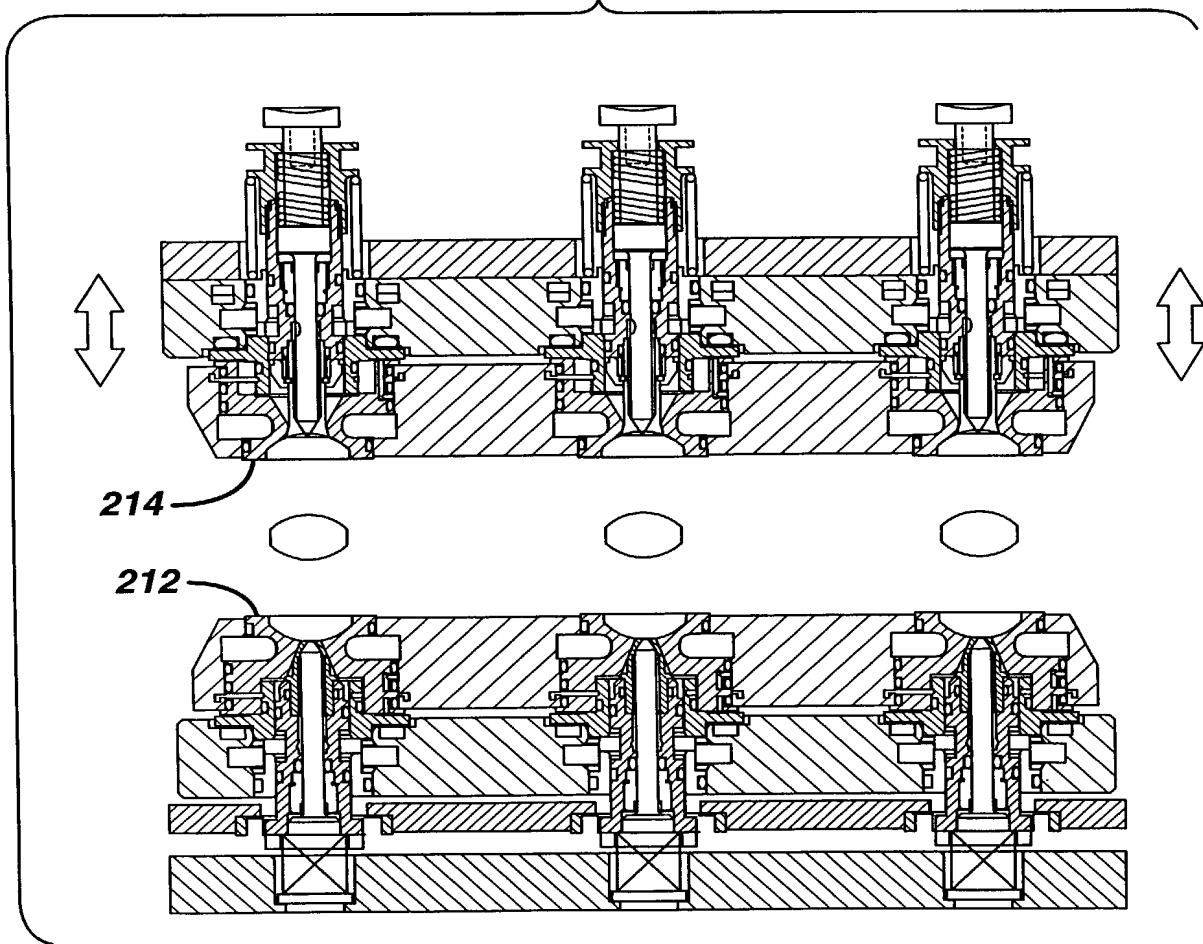
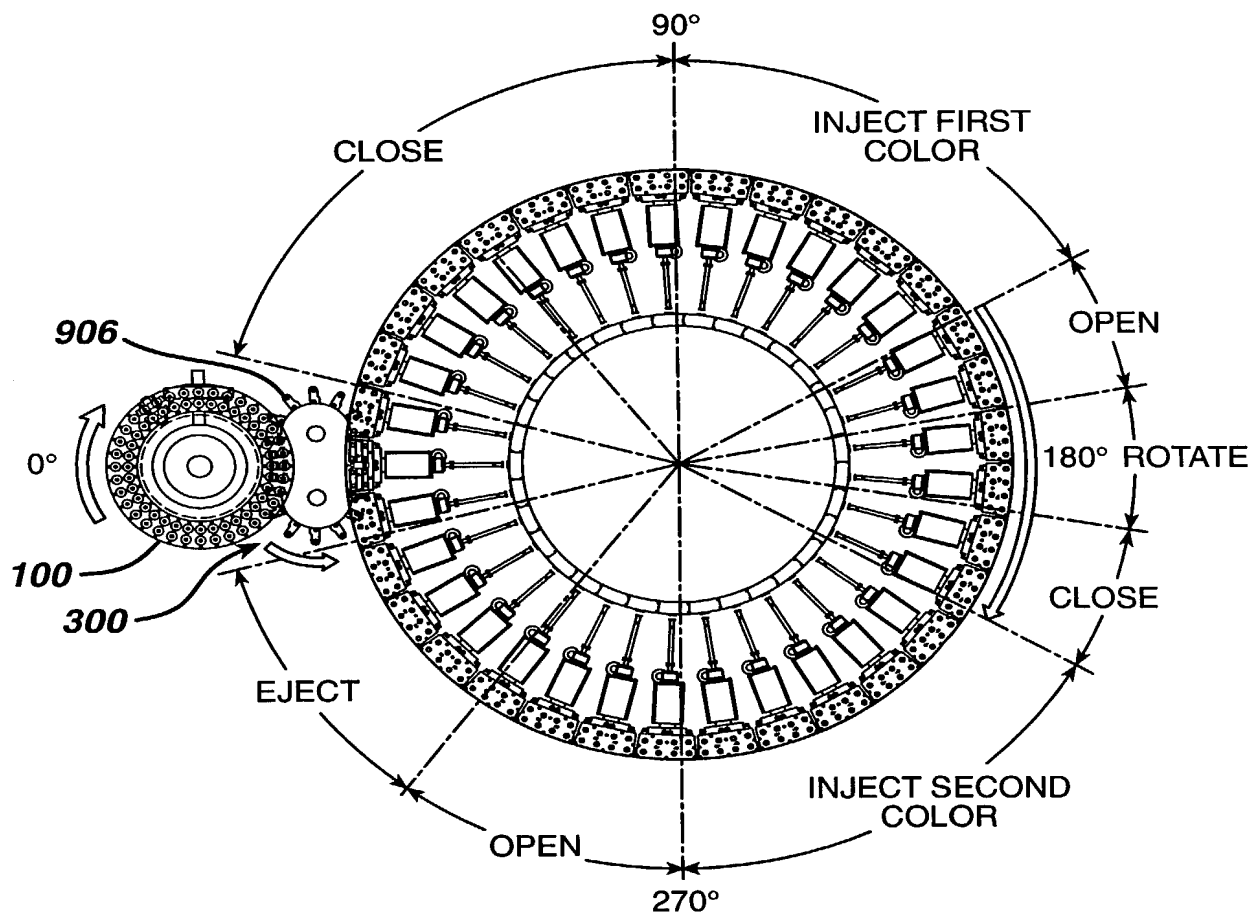


FIG. 27A



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

30/80

FIG. 27B

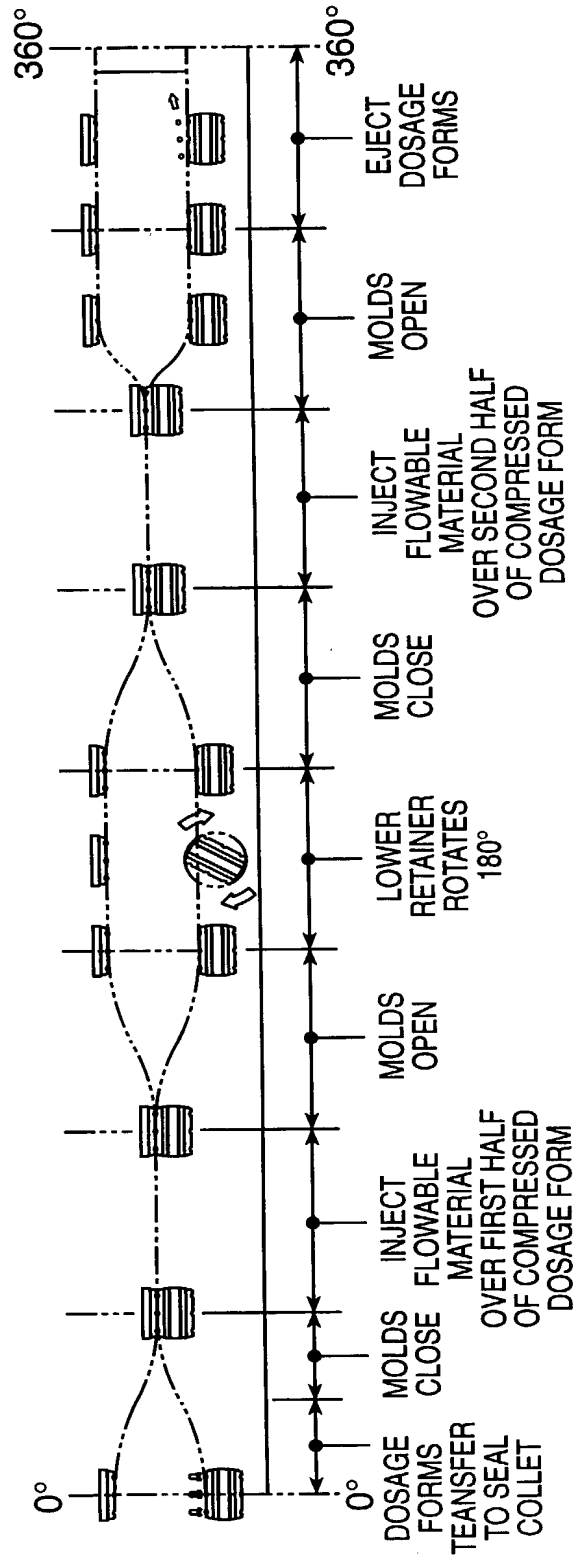


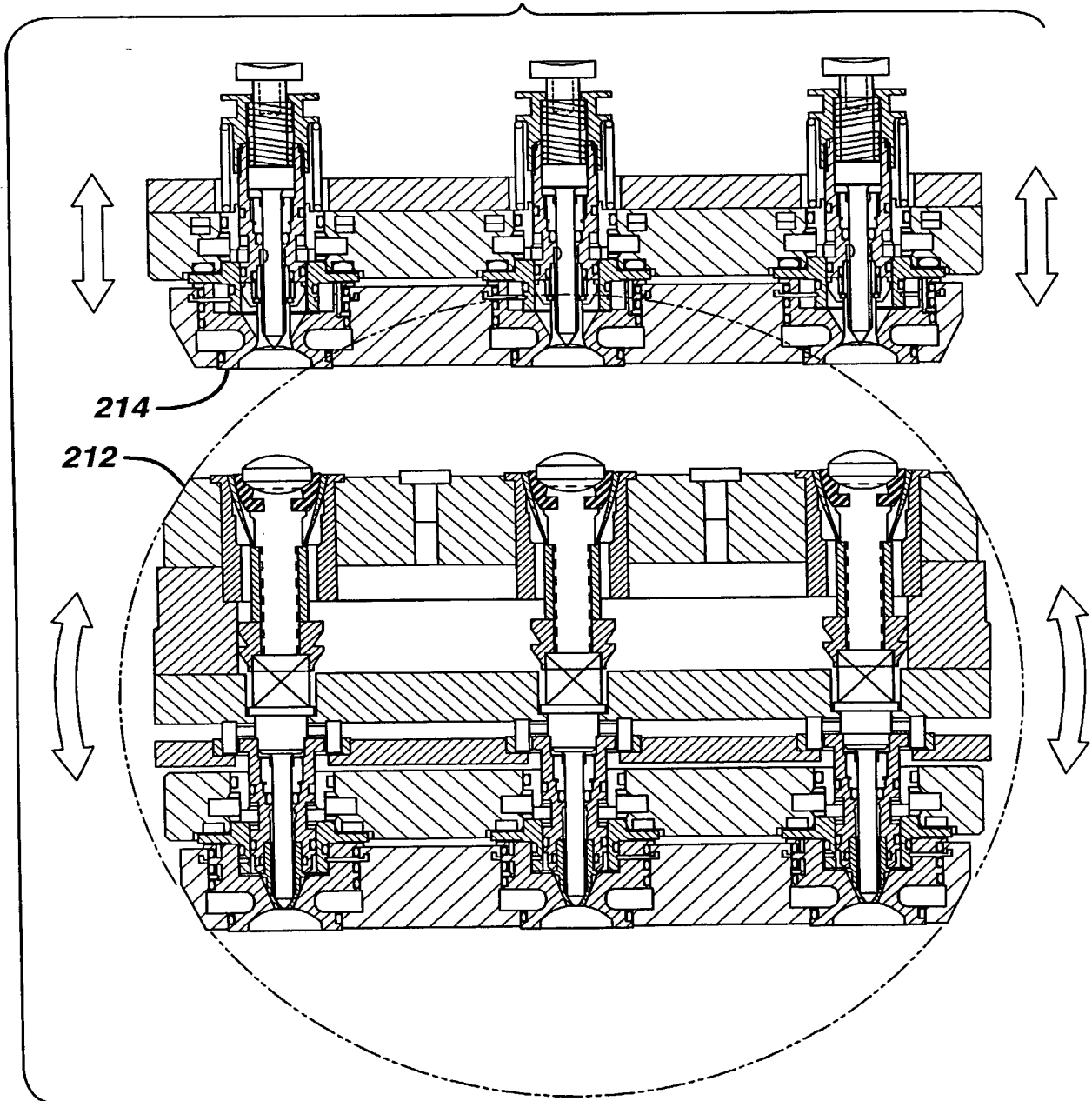
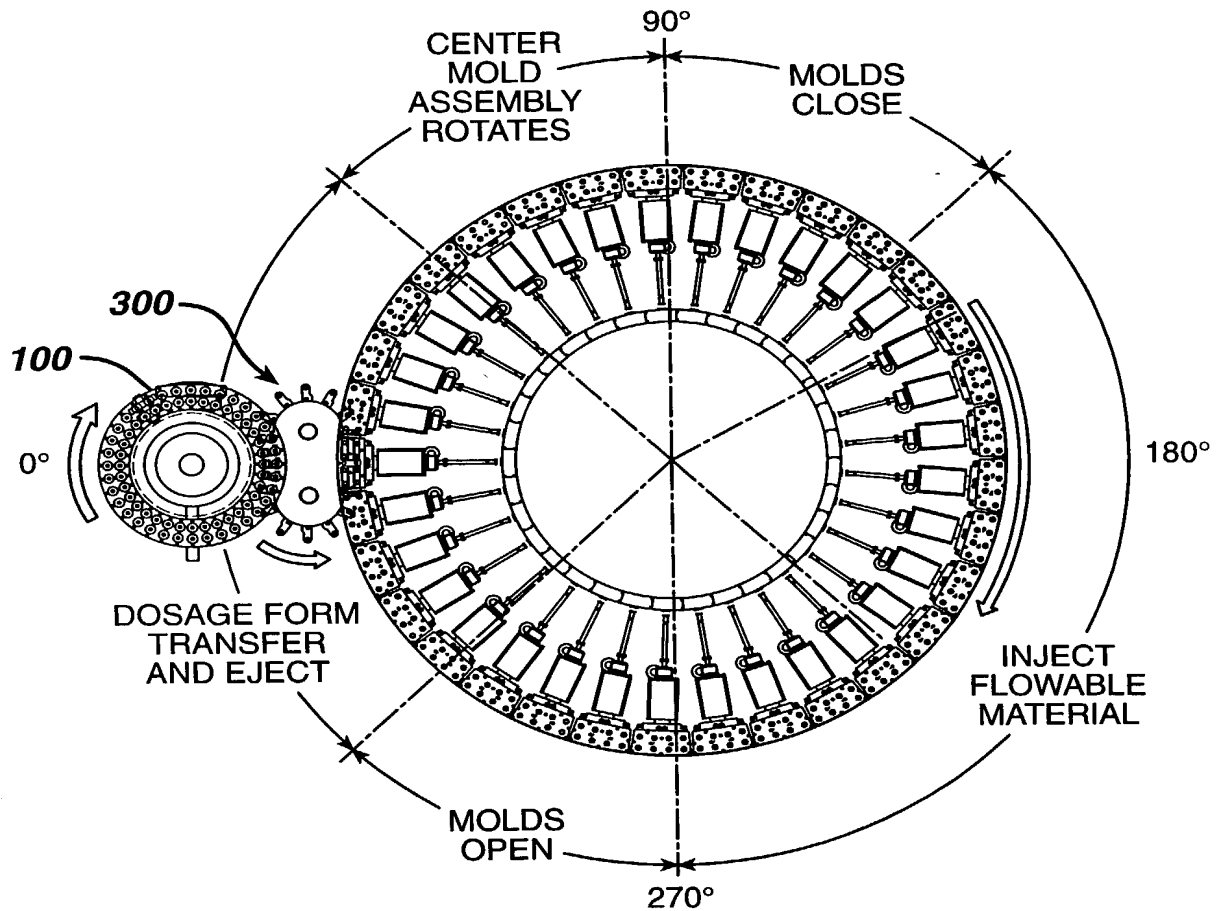
FIG. 27C

FIG. 28A

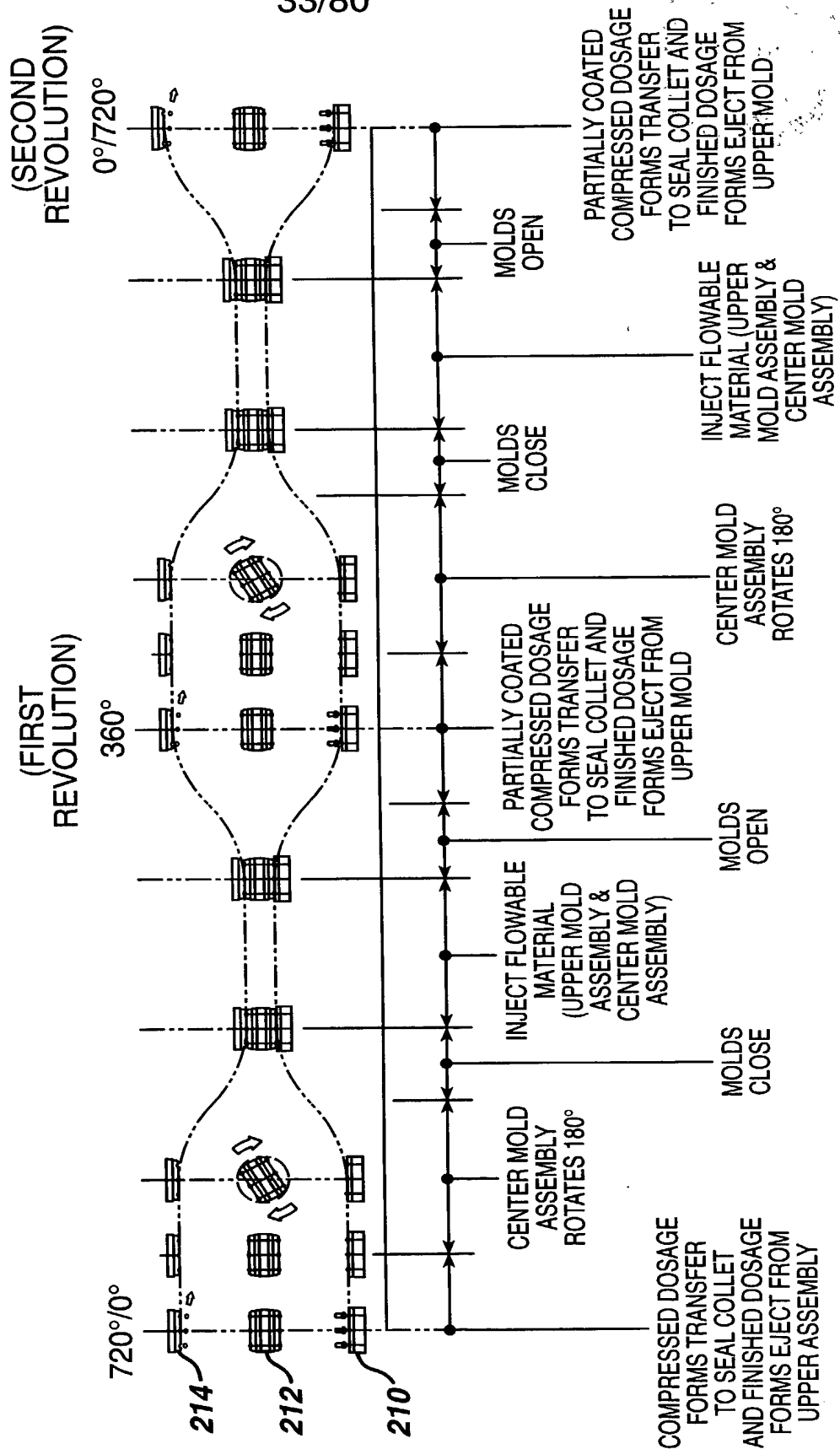
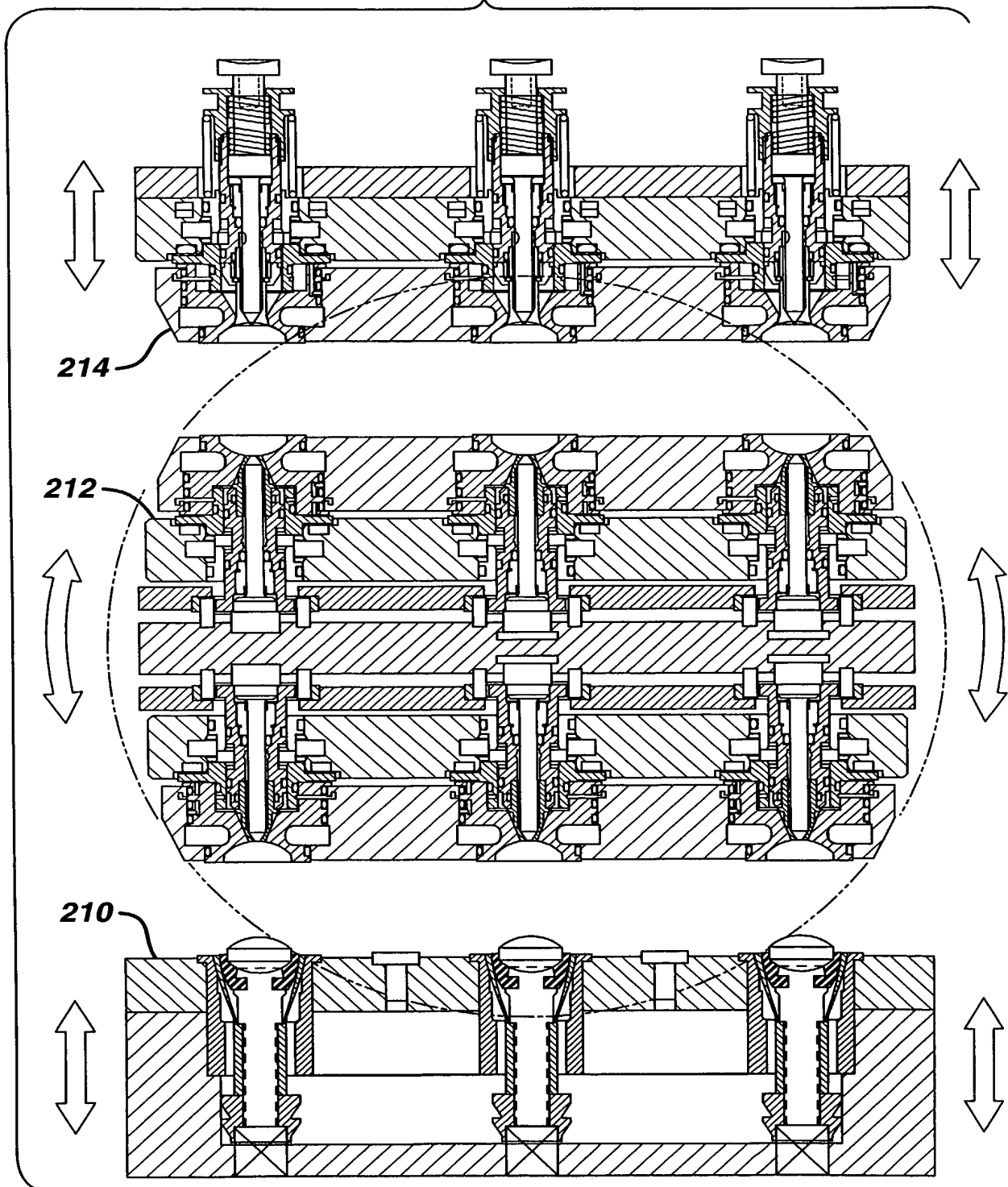


FIG. 28C

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

35/80

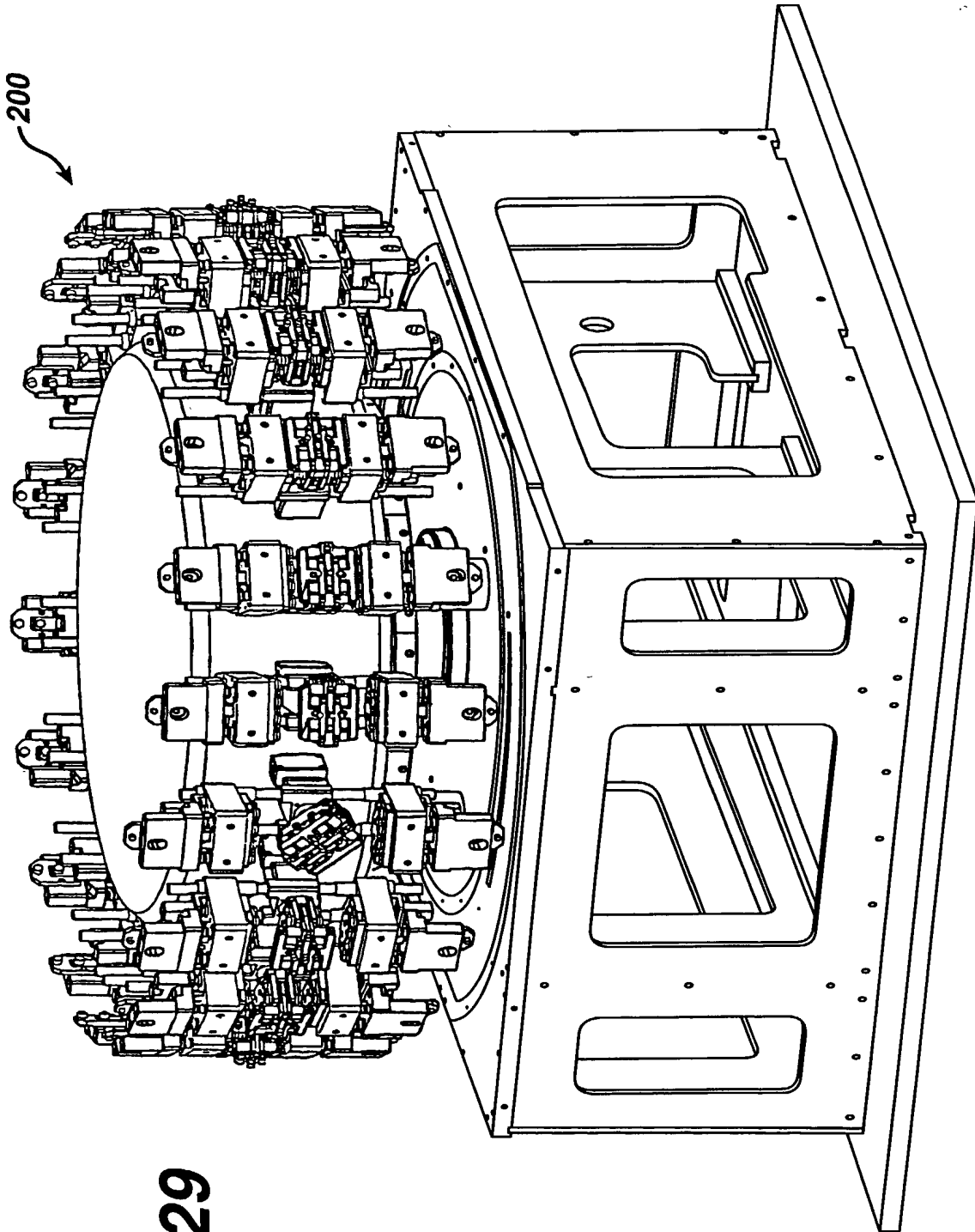
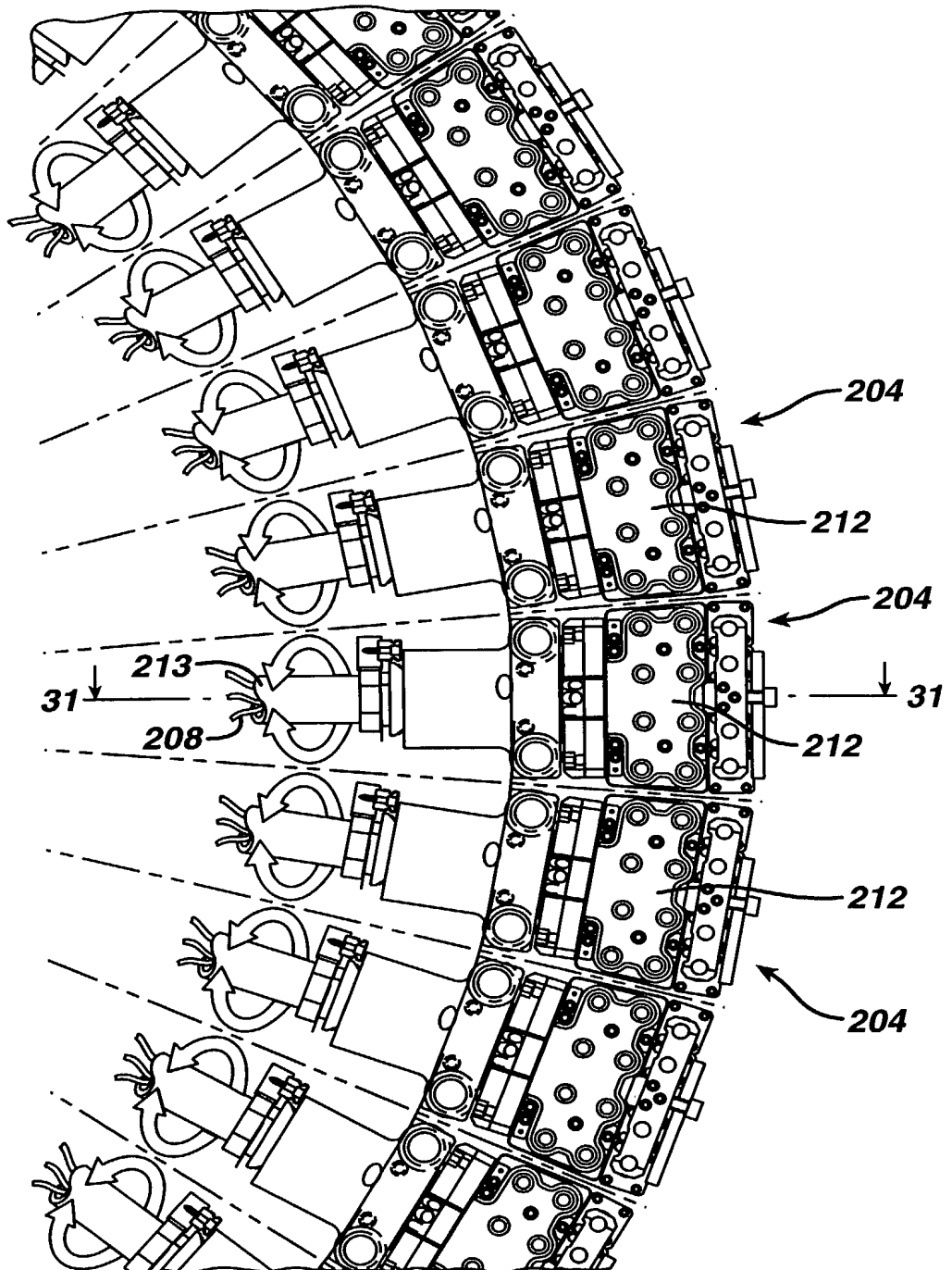
**FIG. 29**

FIG. 30

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

37/80

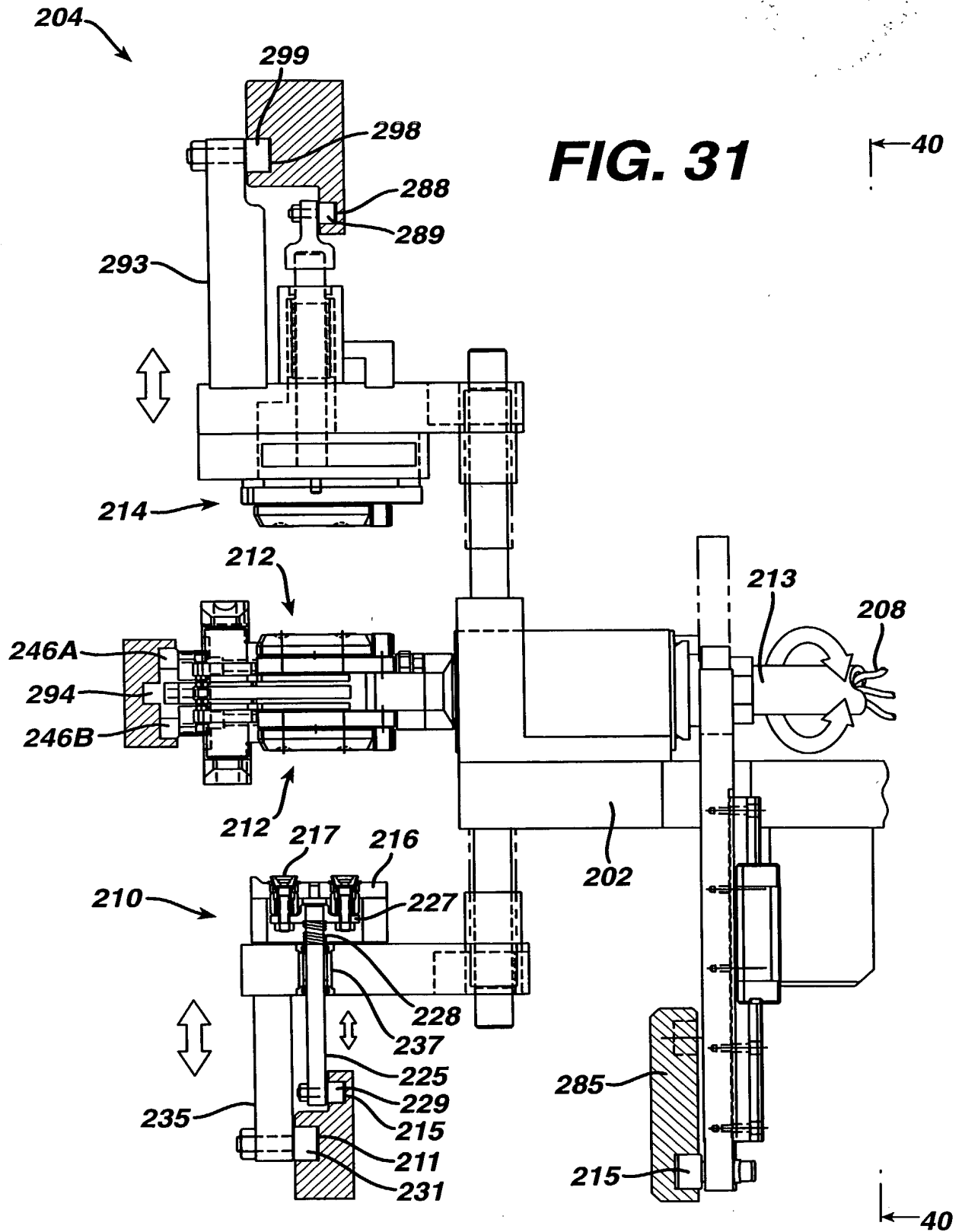
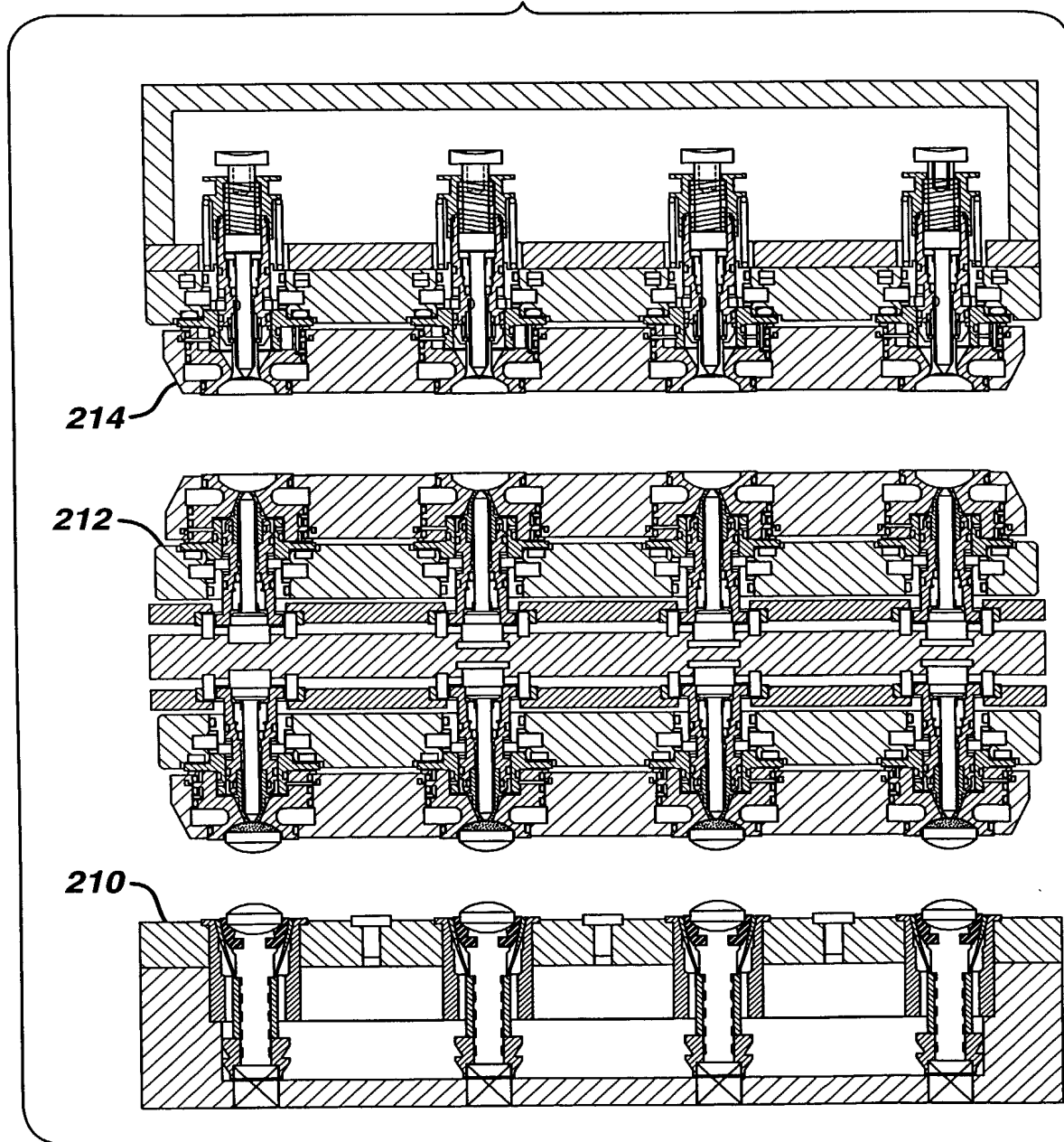


FIG. 32

39/80

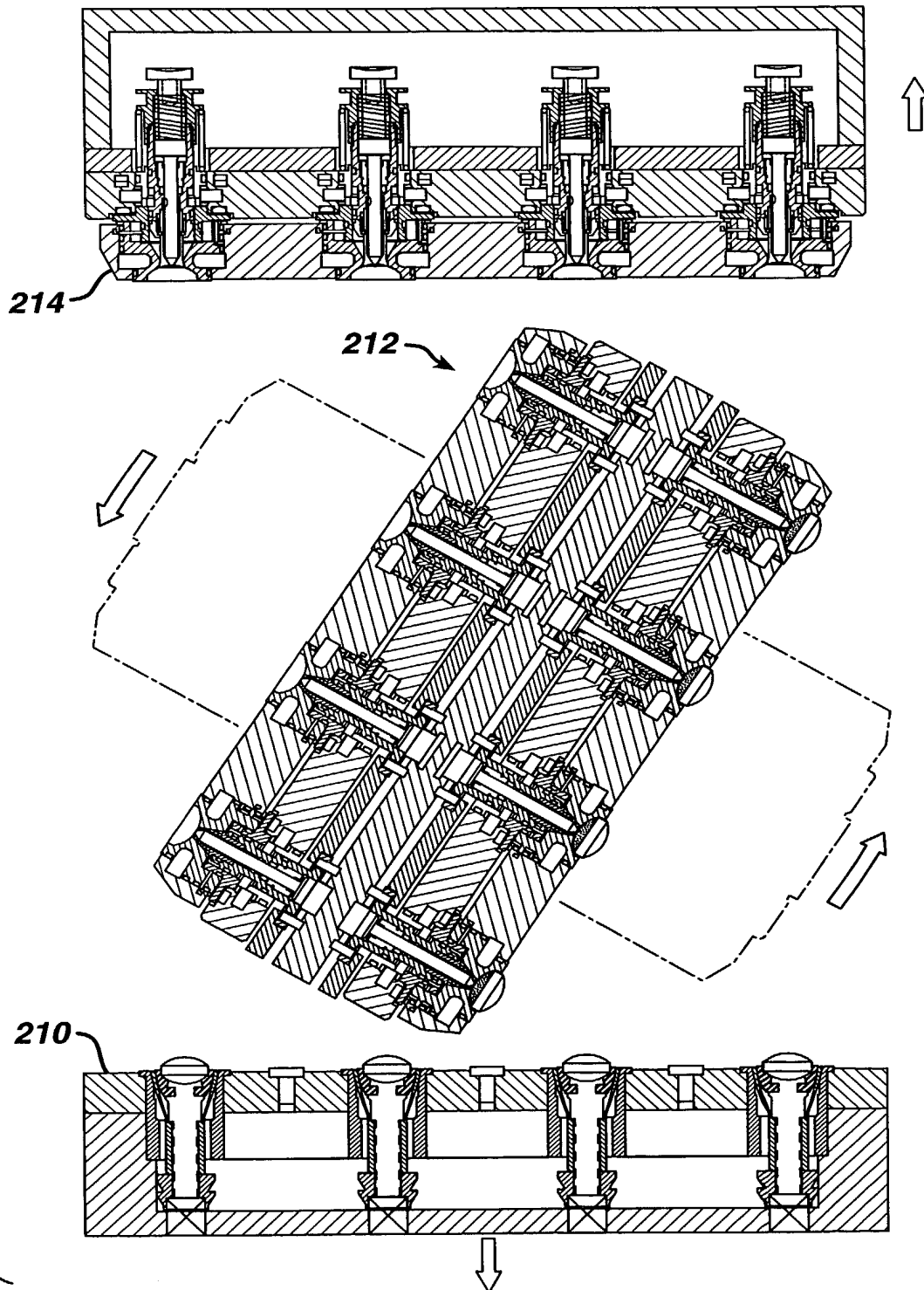
FIG. 33

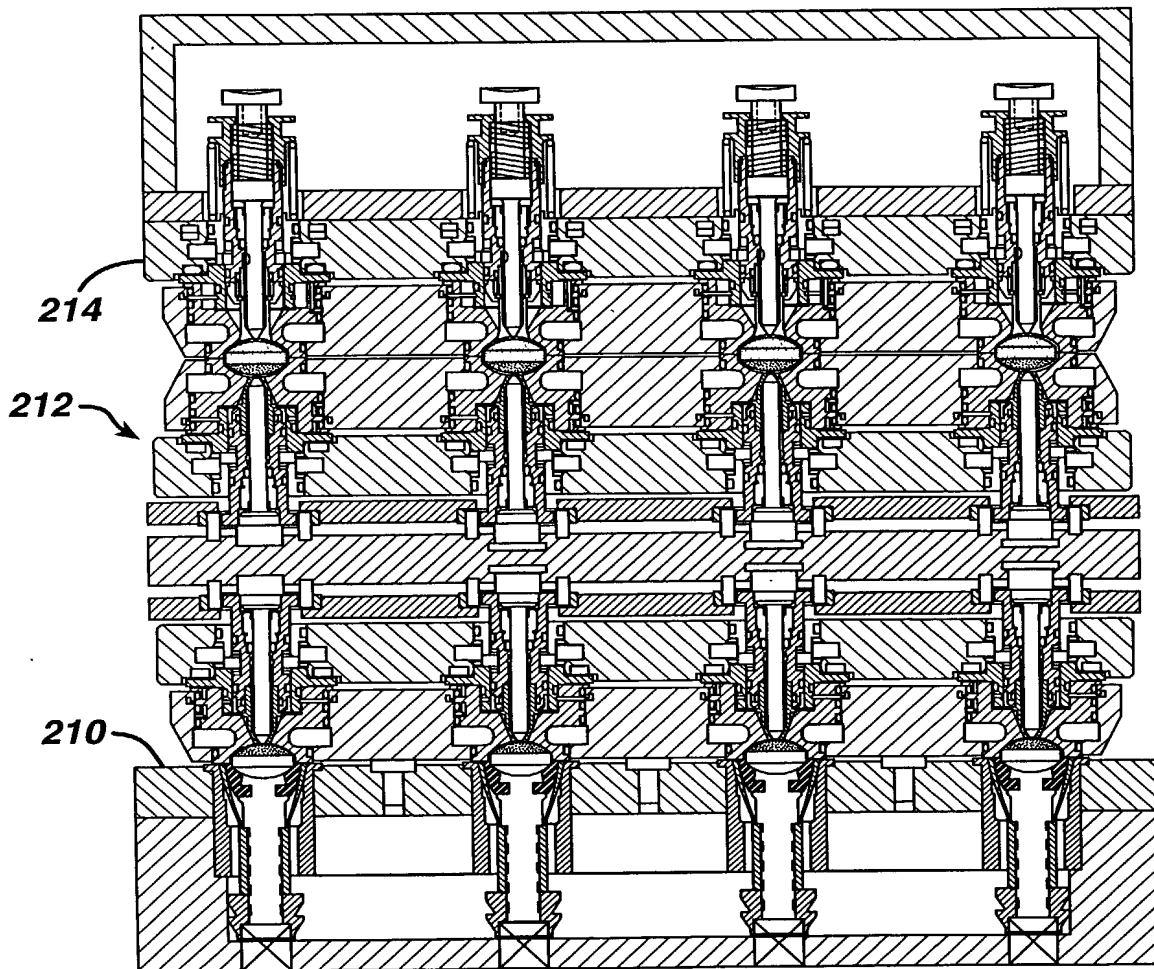
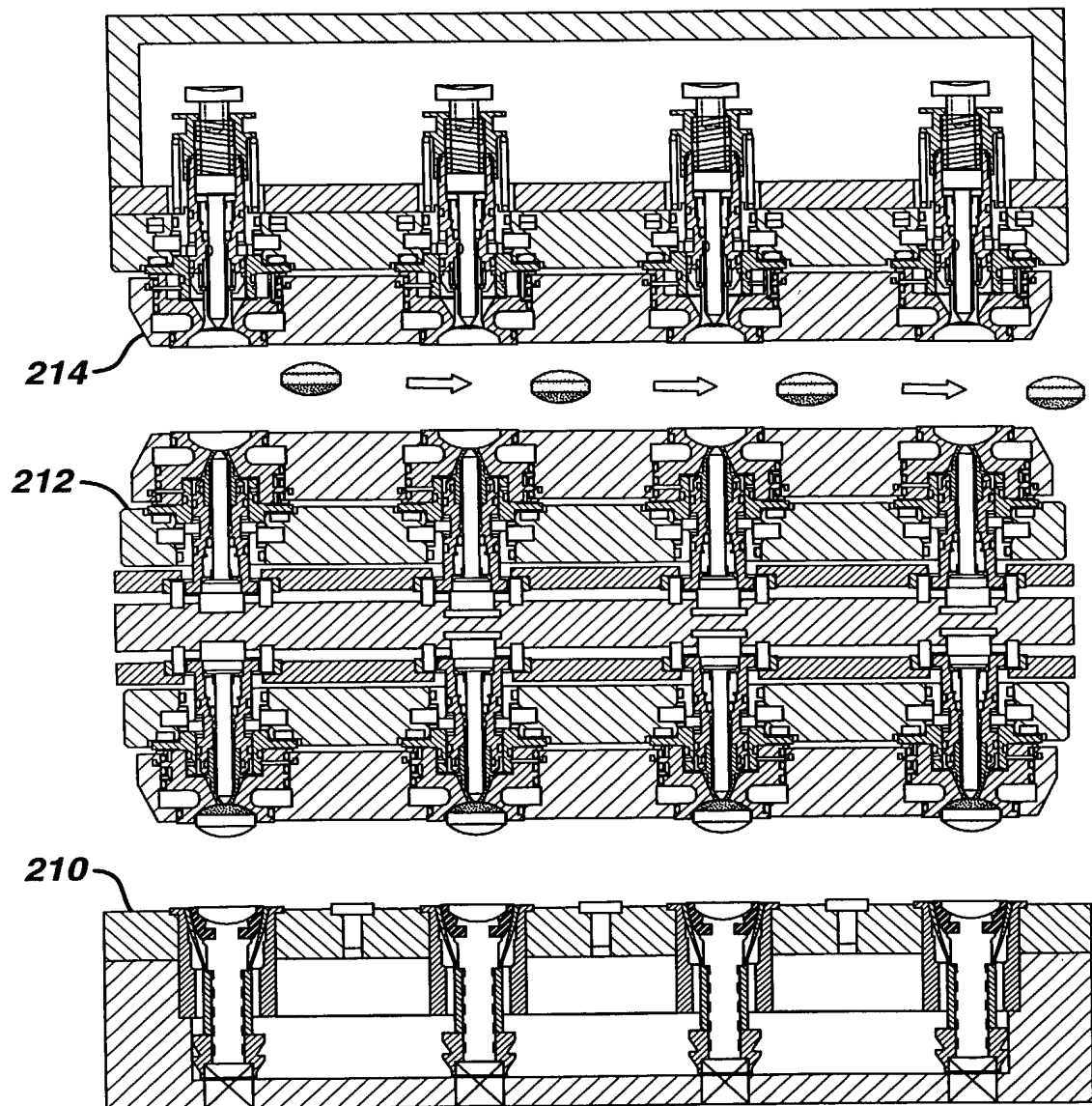
FIG. 34

FIG. 35

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

42/80

FIG. 39A

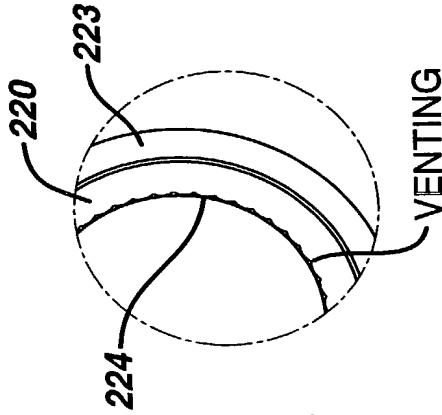


FIG. 39

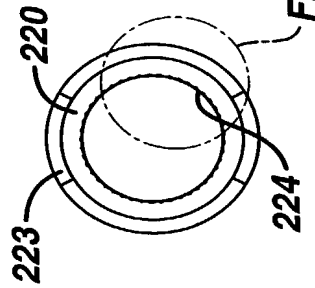


FIG. 38

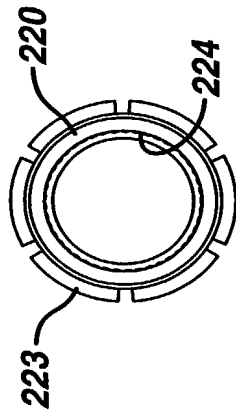


FIG. 37

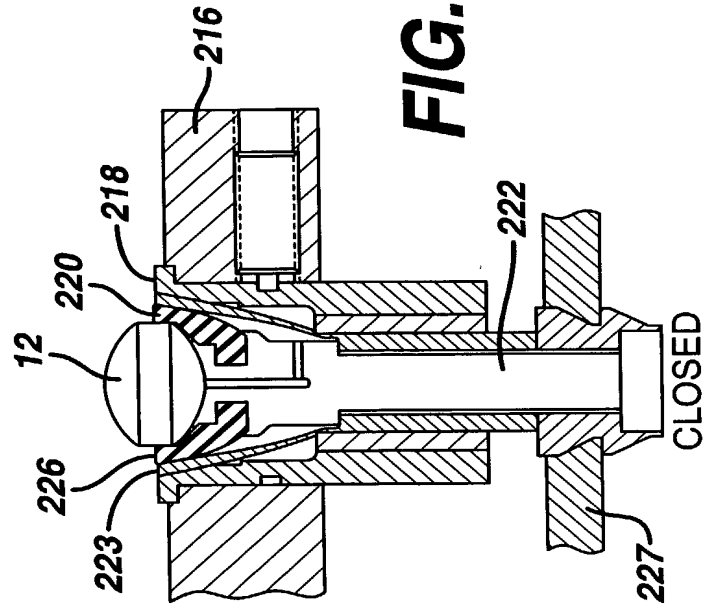


FIG. 36

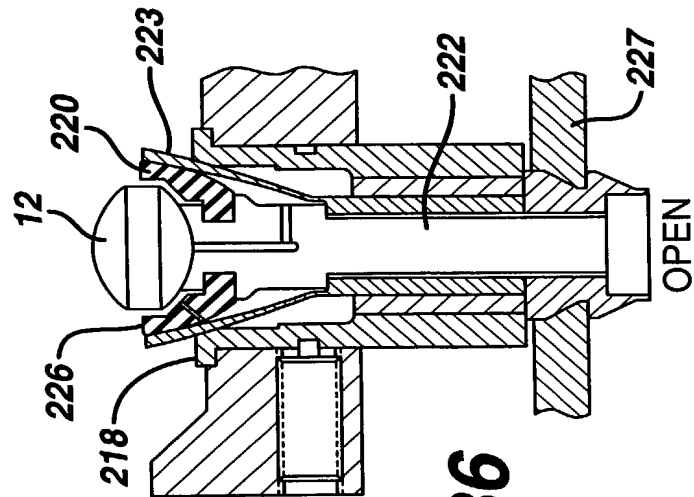


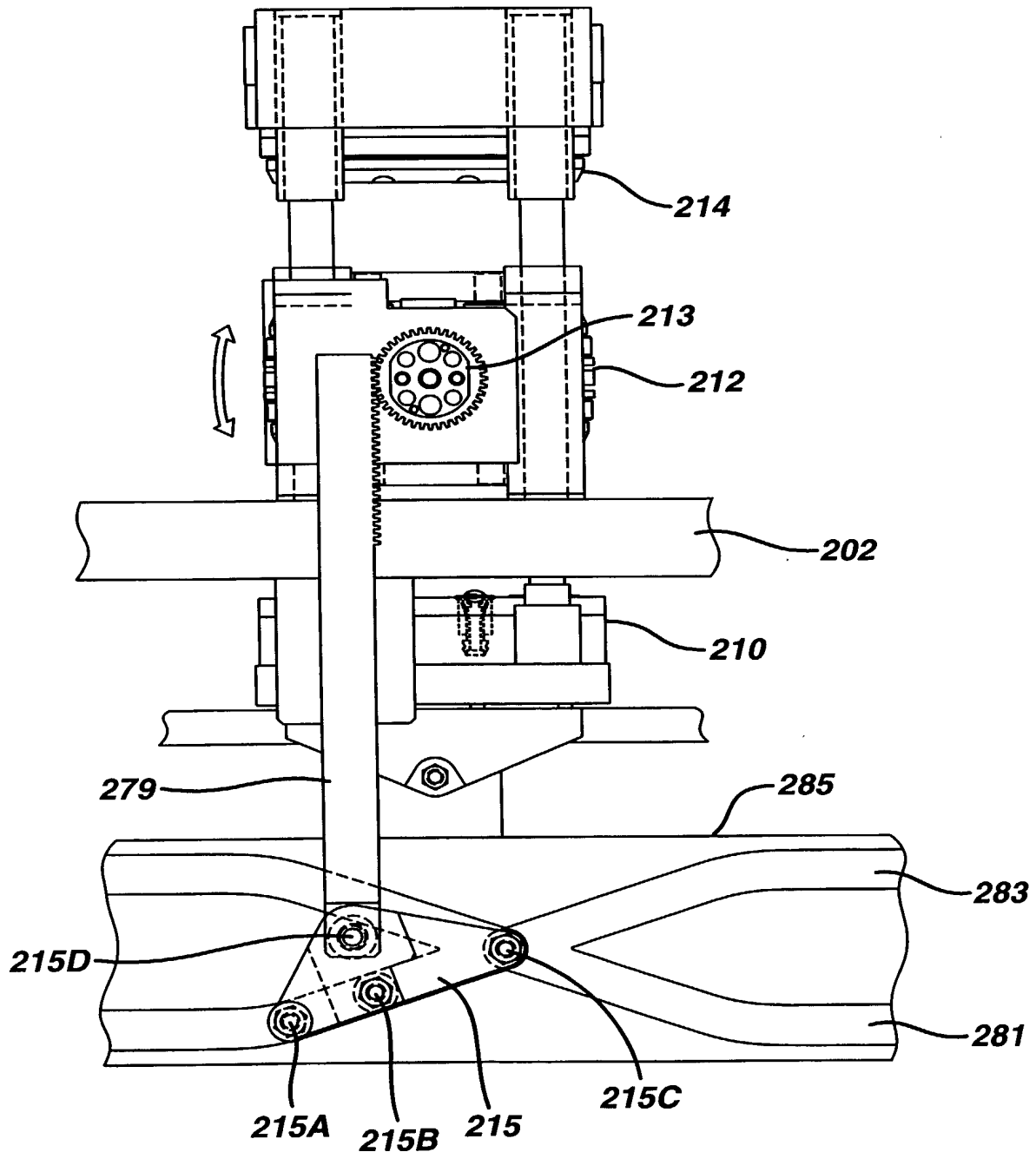
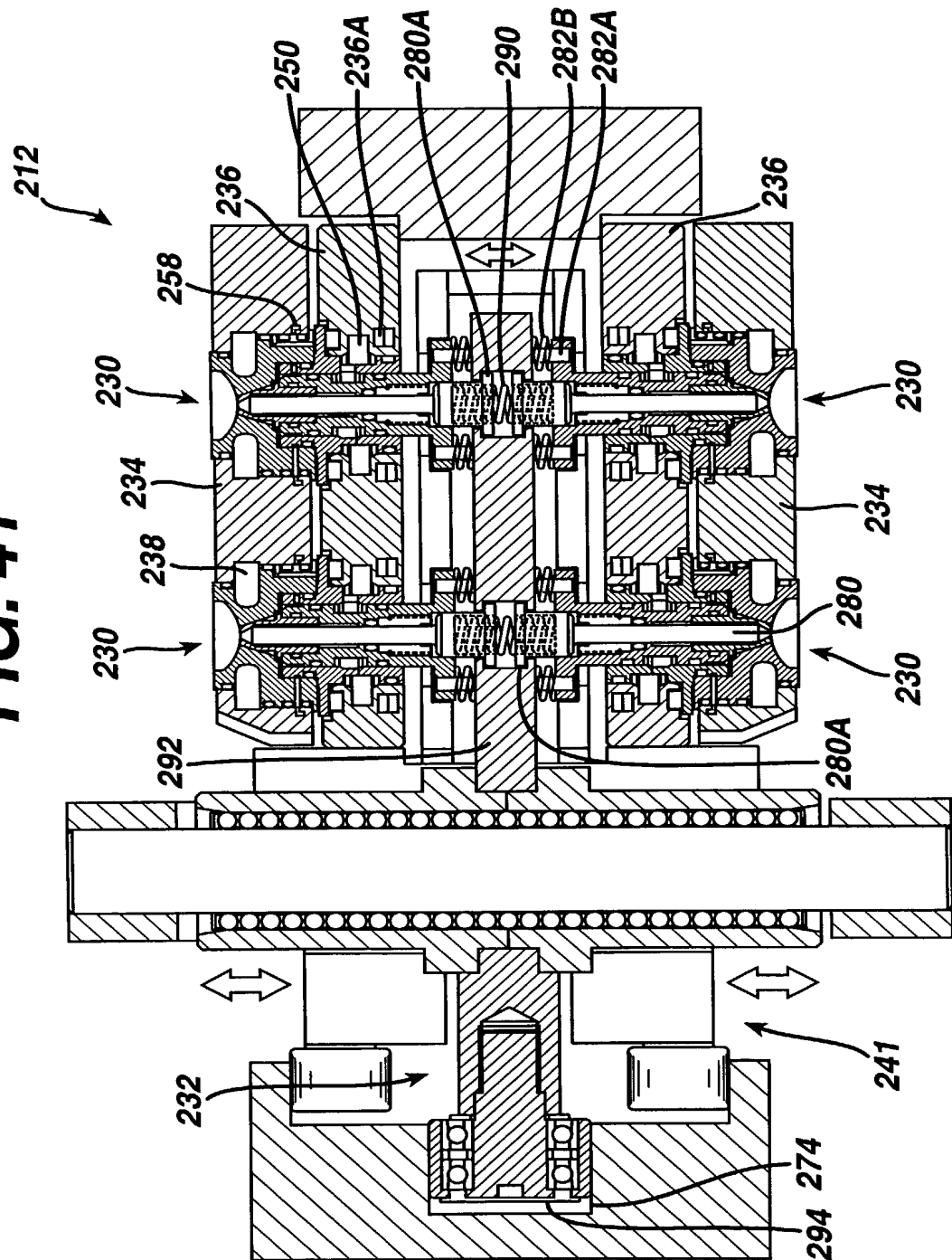
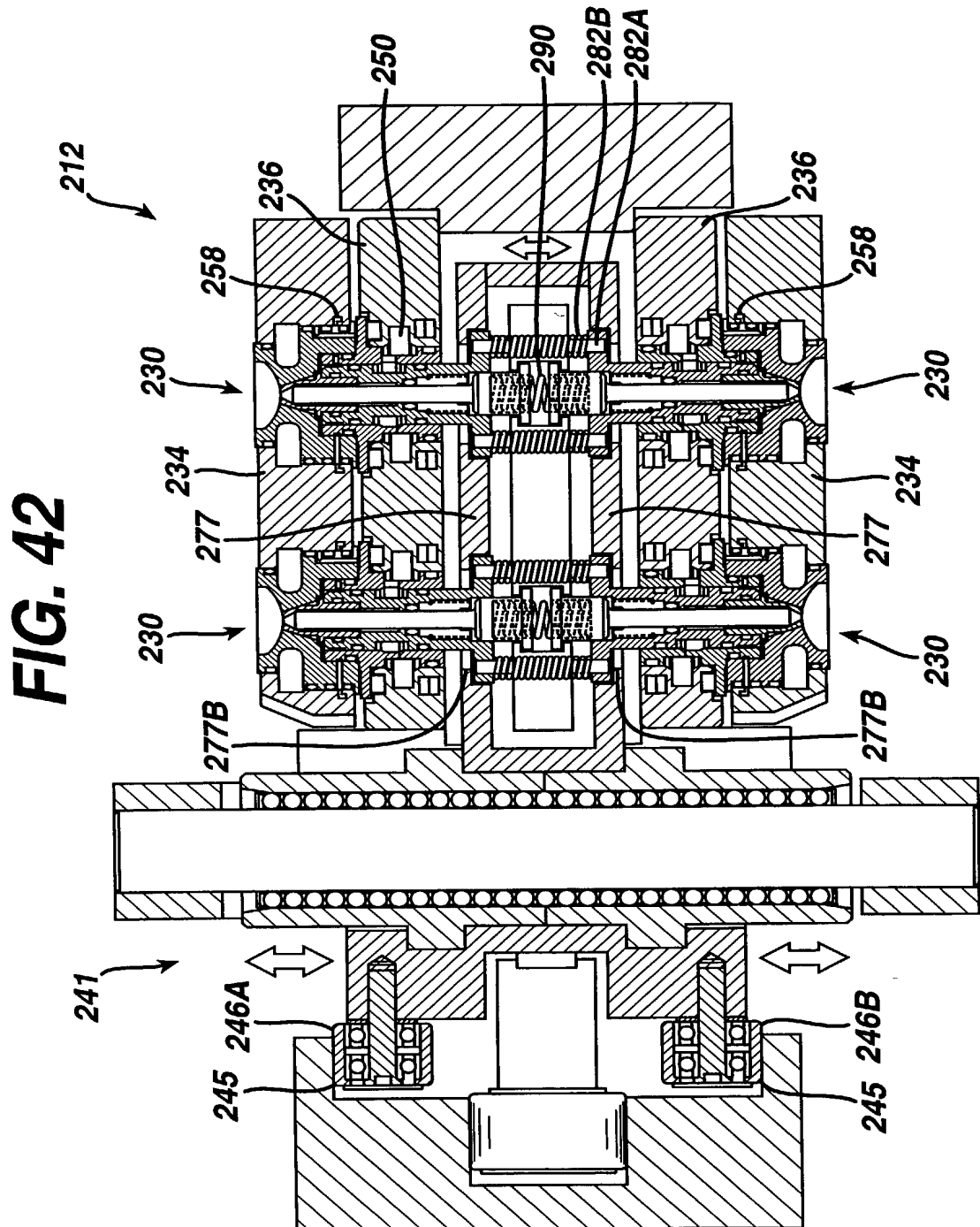
FIG. 40

FIG. 41



45/80



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

46/80

FIG. 43

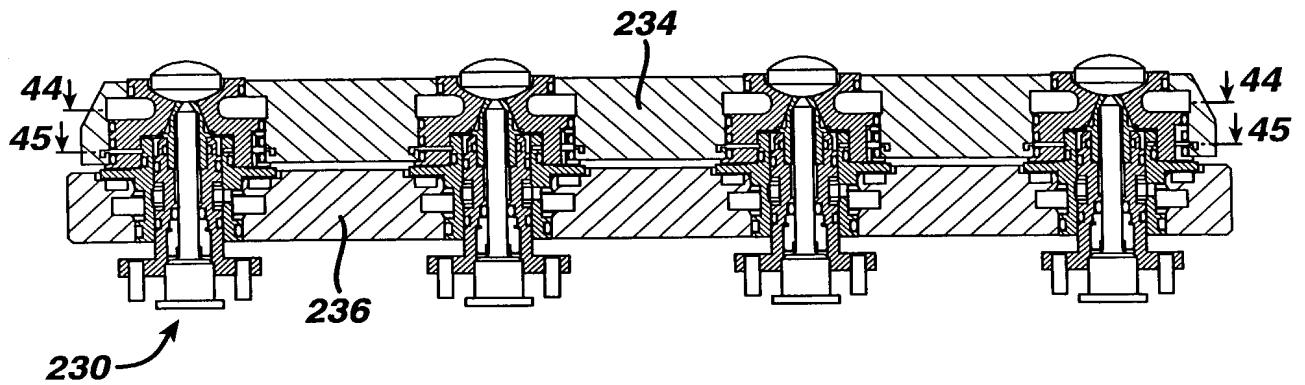
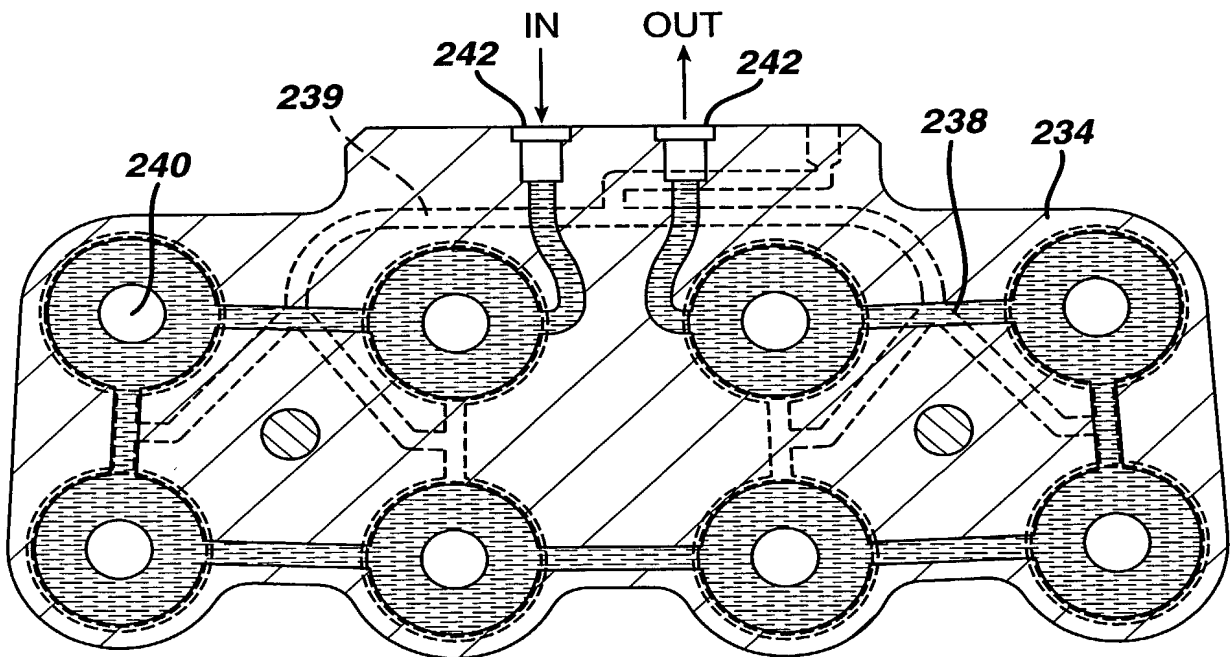
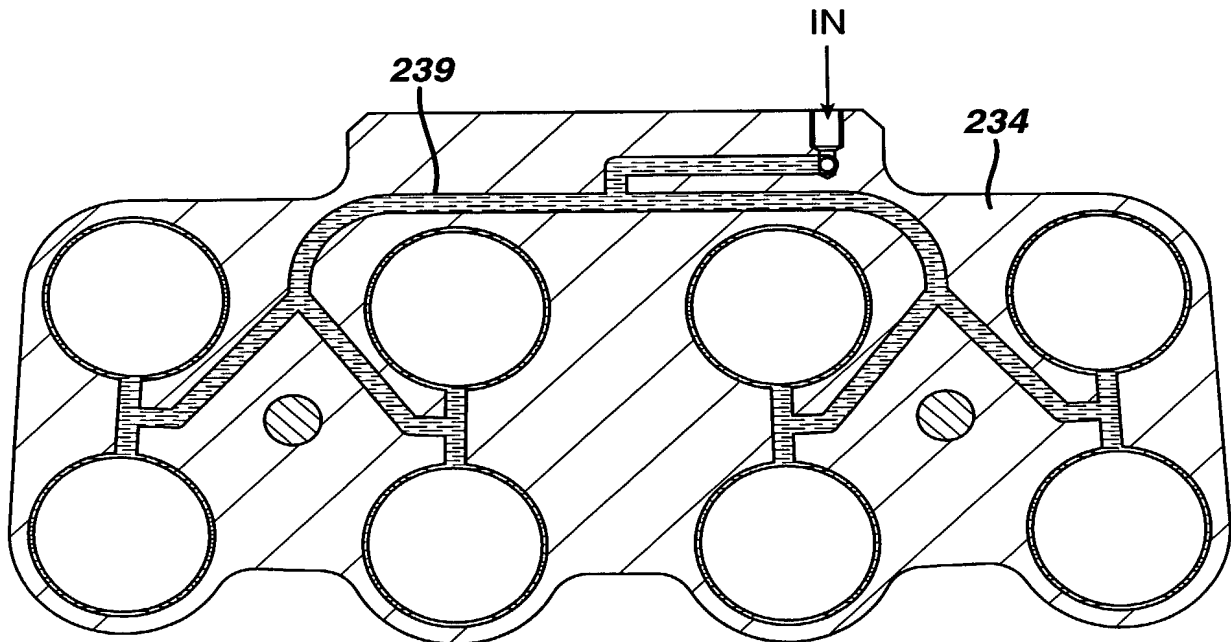


FIG. 44

48/80

FIG. 45

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

49/80

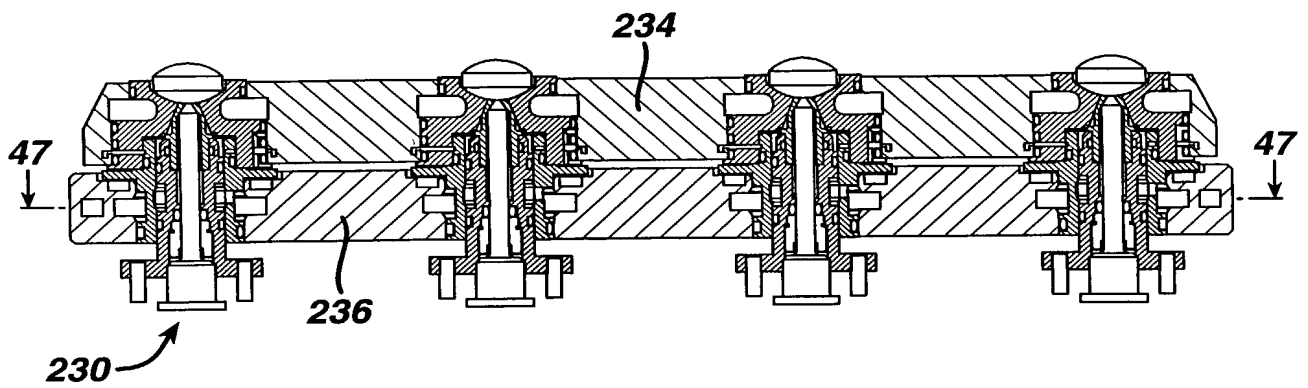
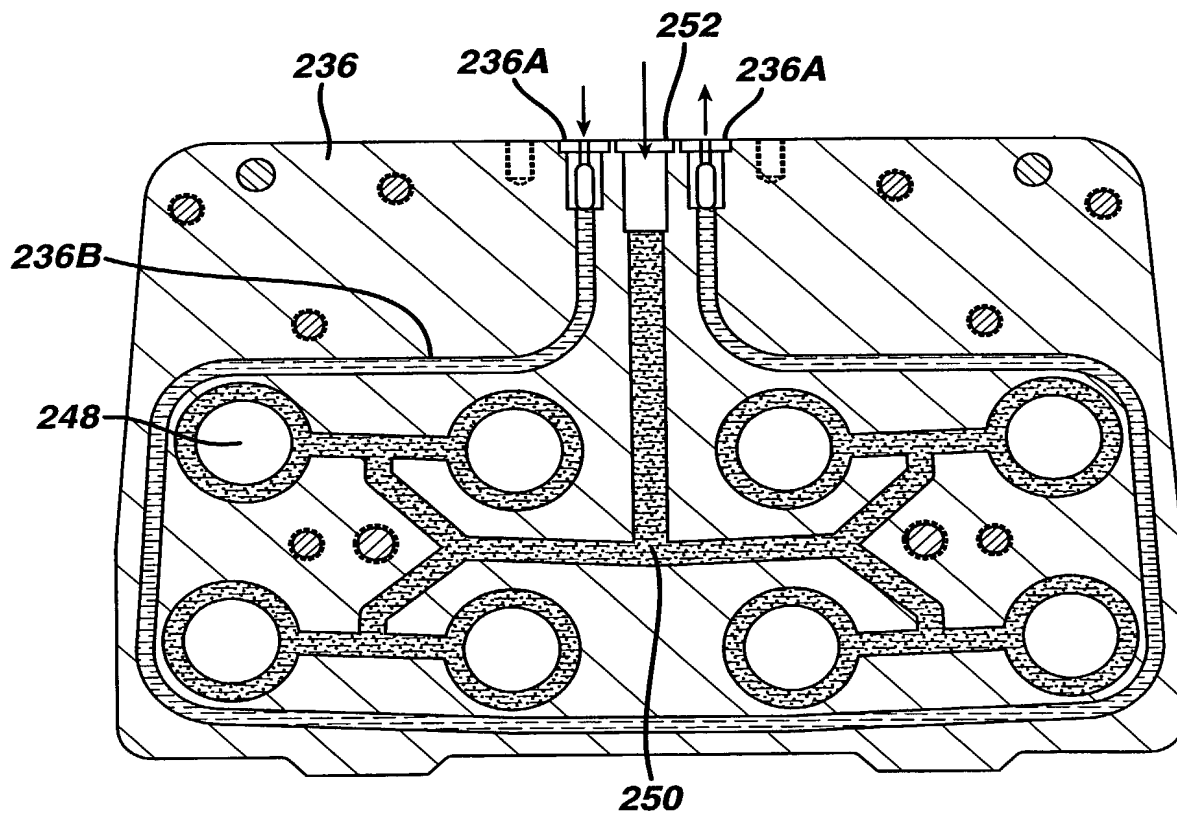
FIG. 46

FIG. 47

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

51/80

FIG. 50

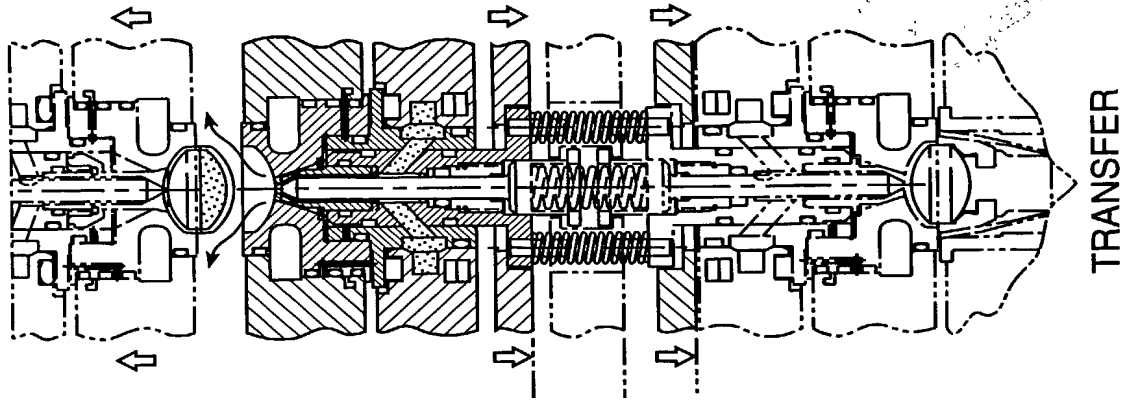


FIG. 49

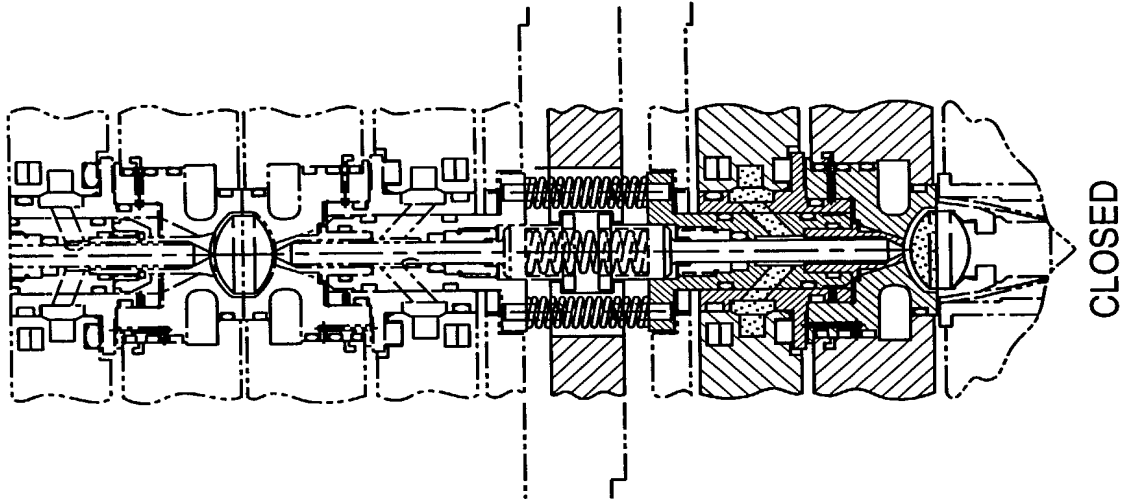
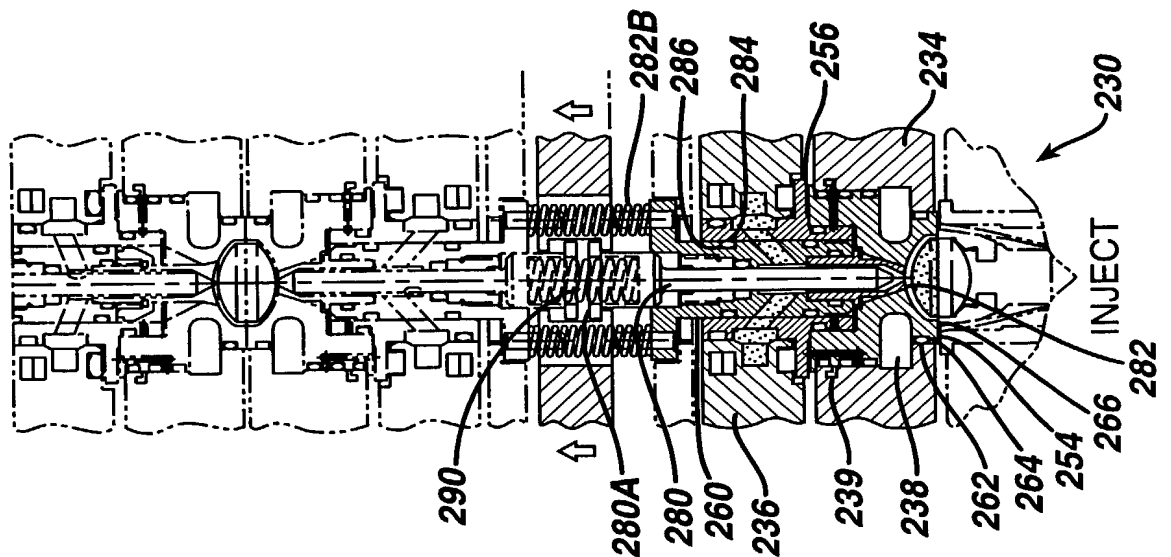


FIG. 48



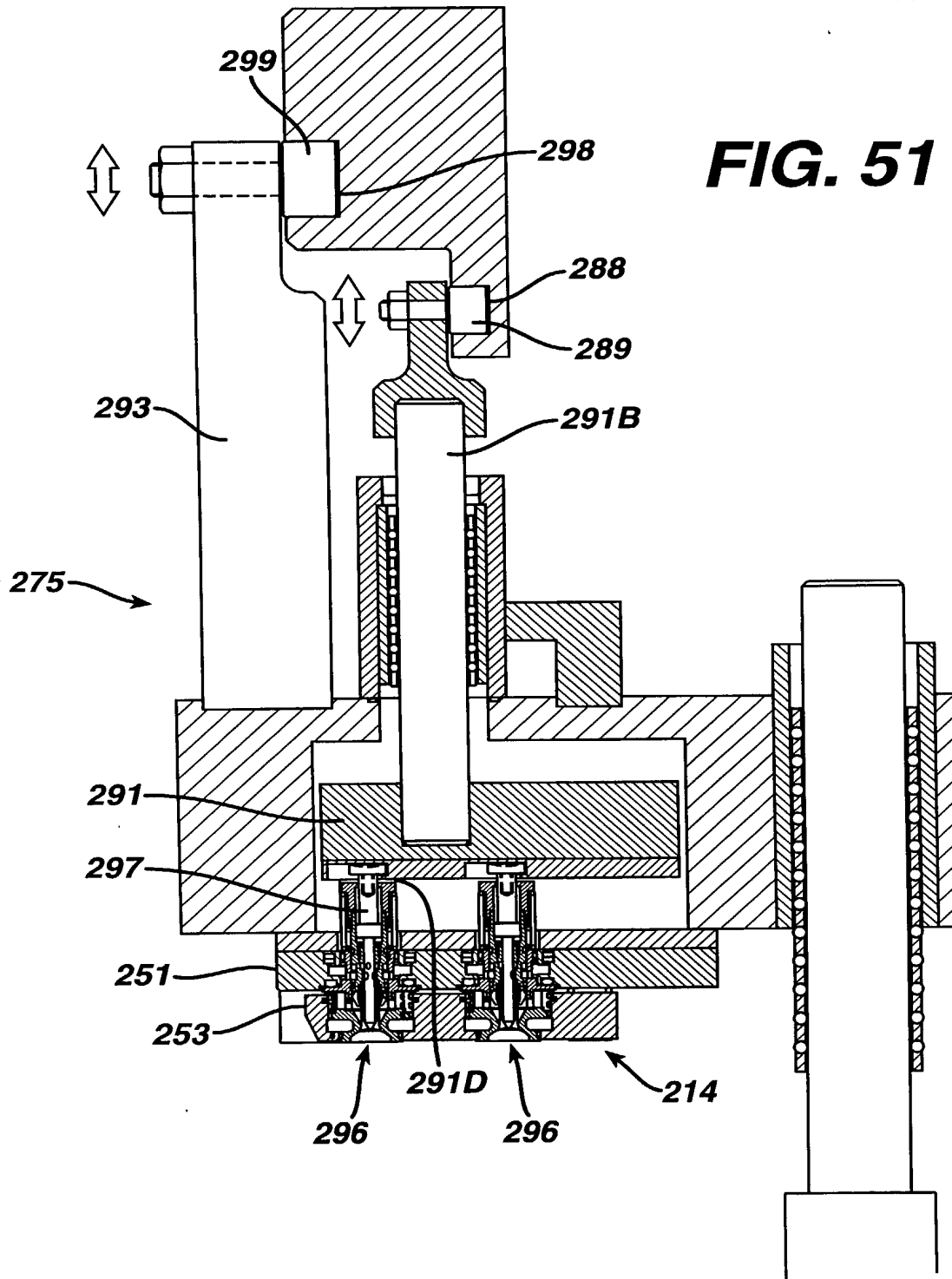


FIG. 54

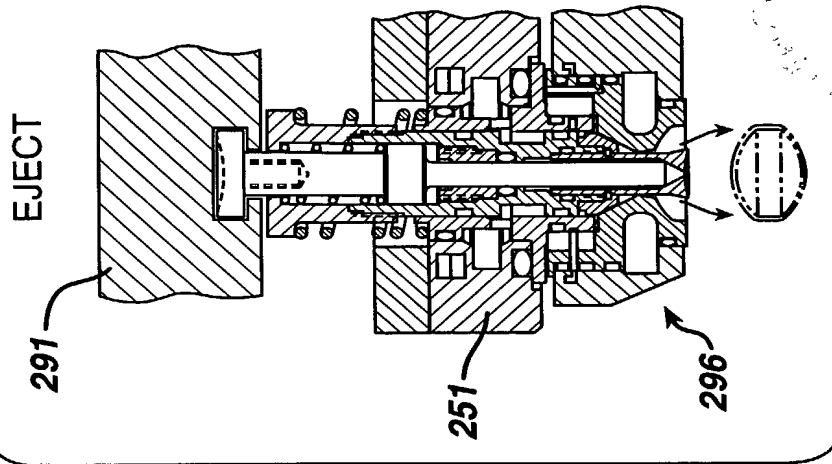


FIG. 53

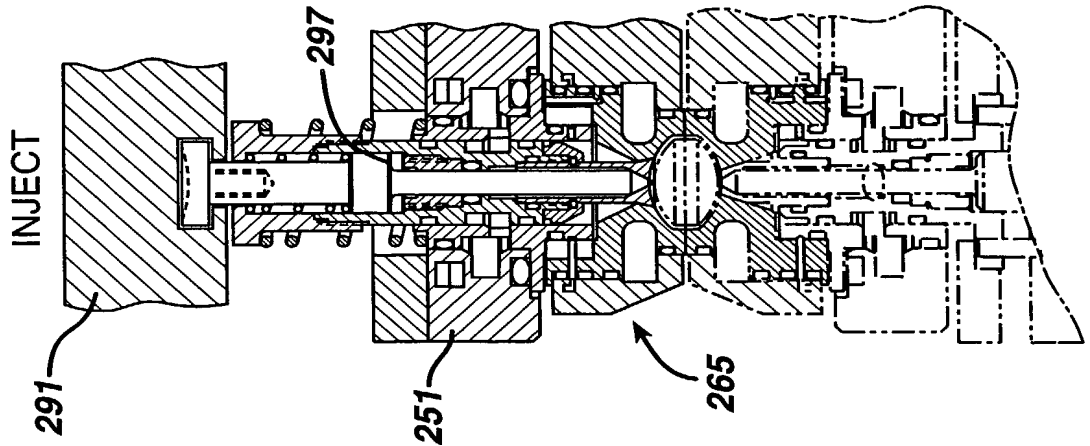
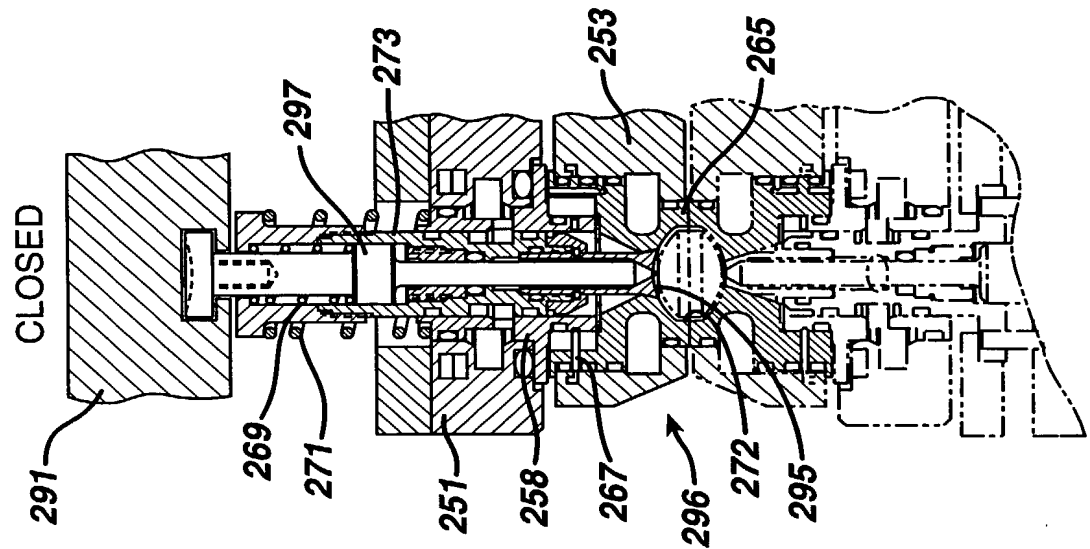


FIG. 52



54/80

FIG. 55

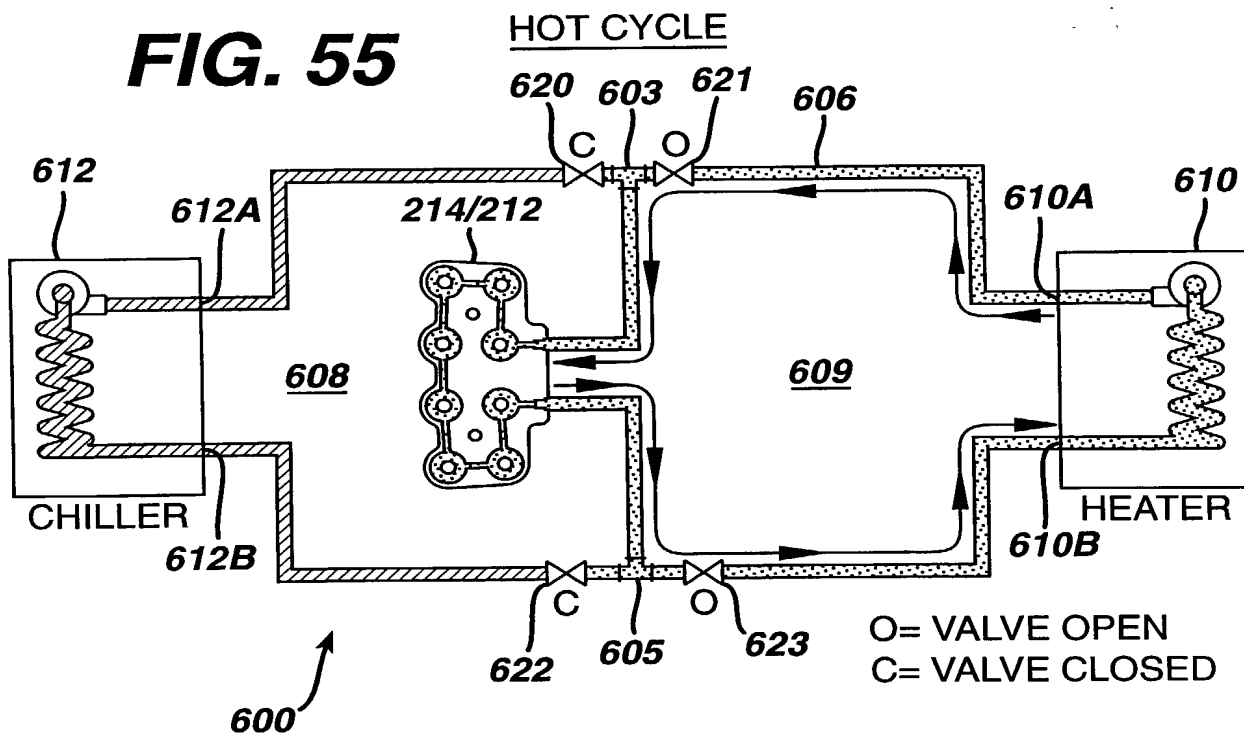
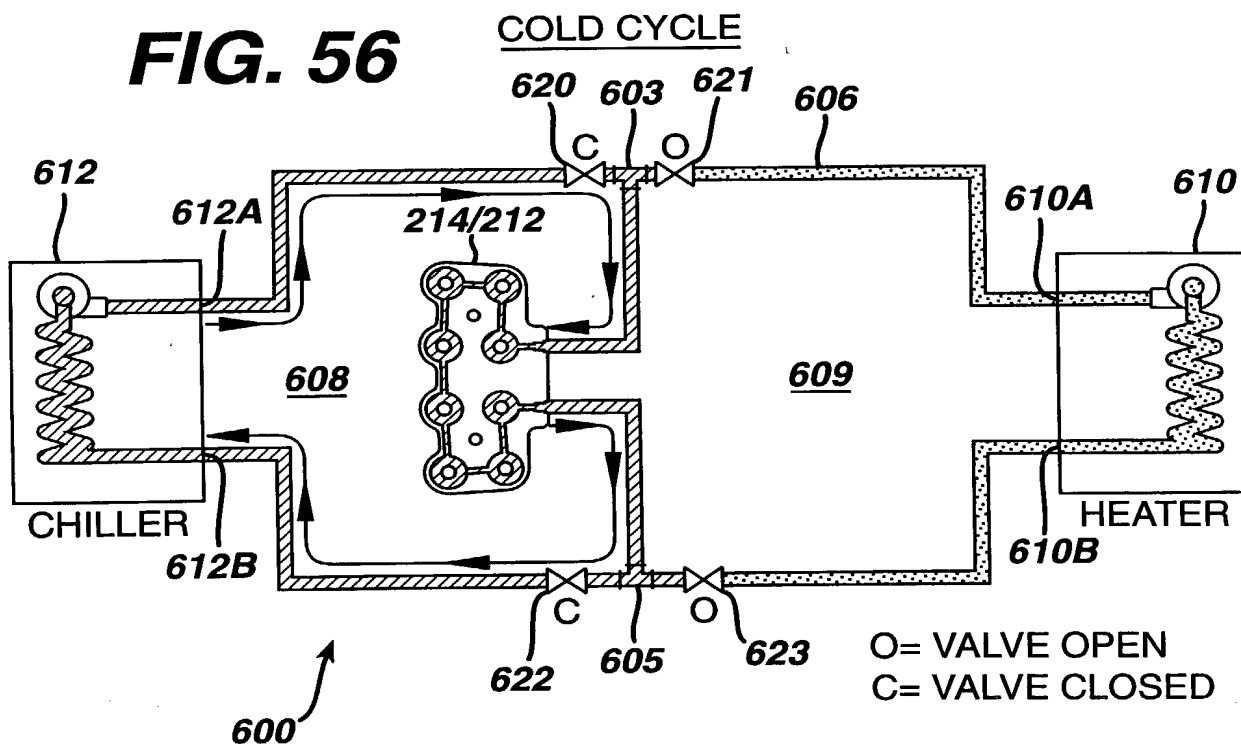


FIG. 56



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

55/80

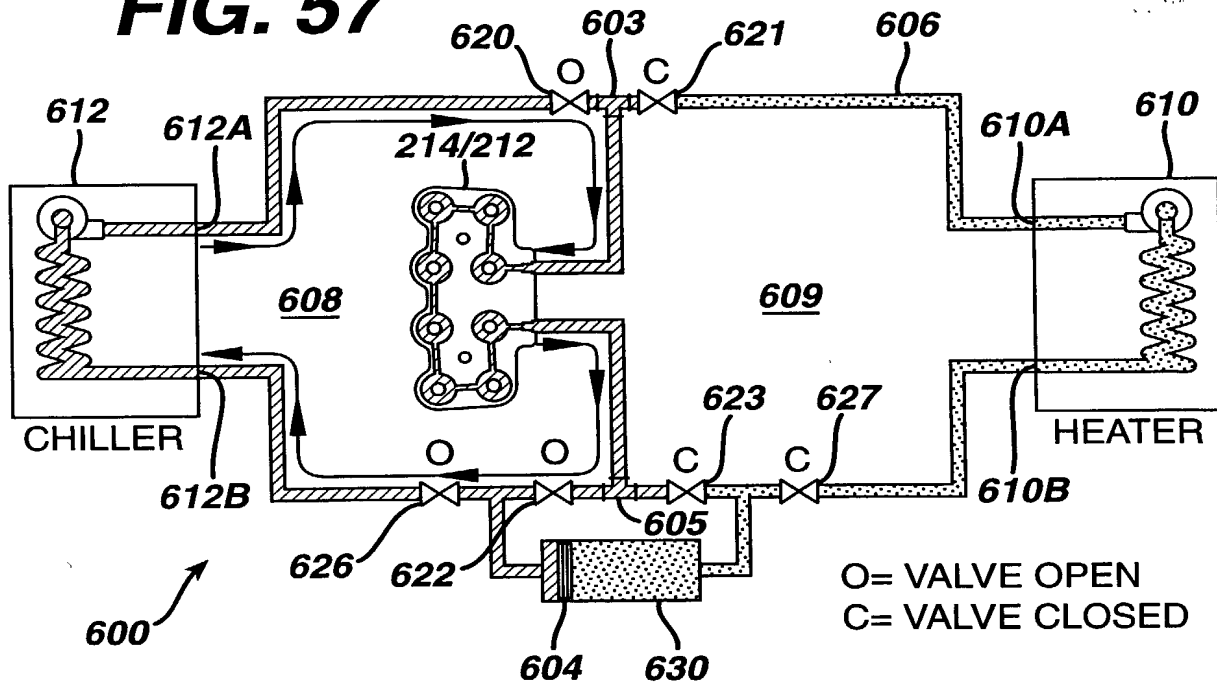
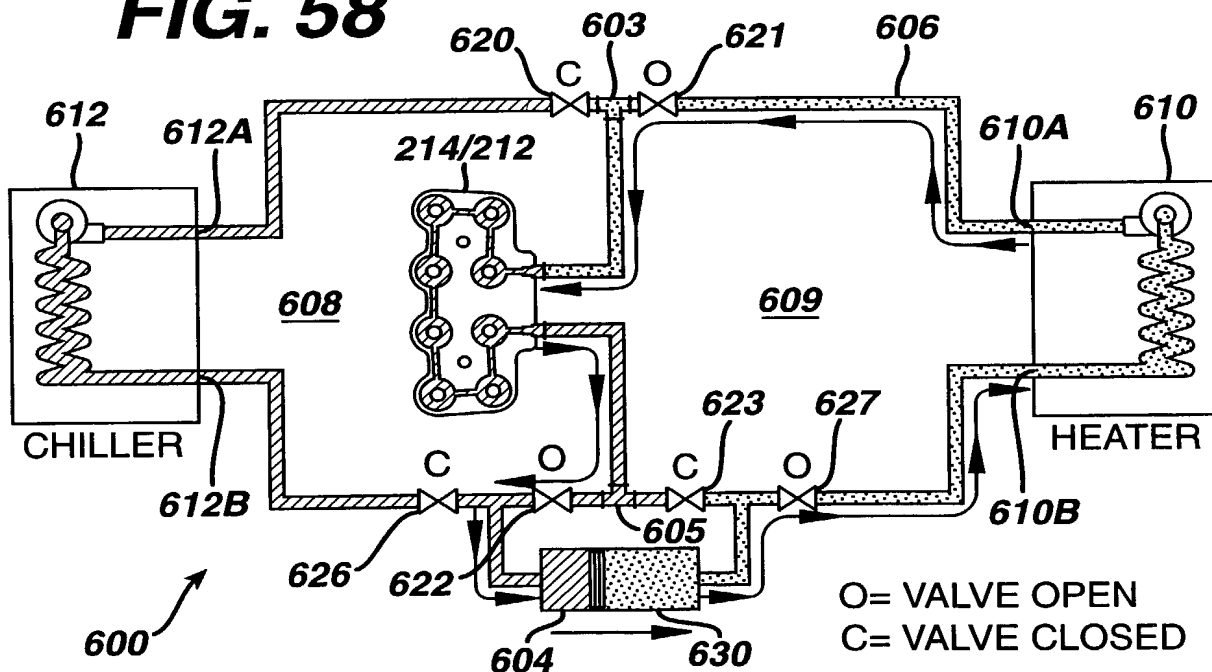
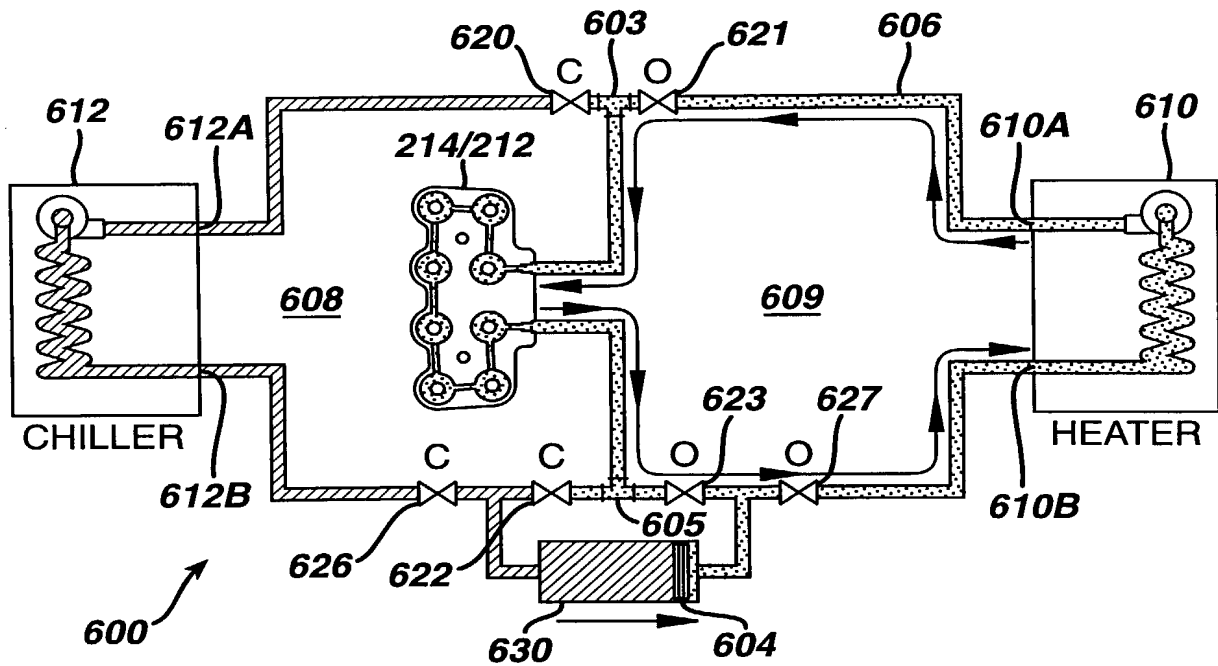
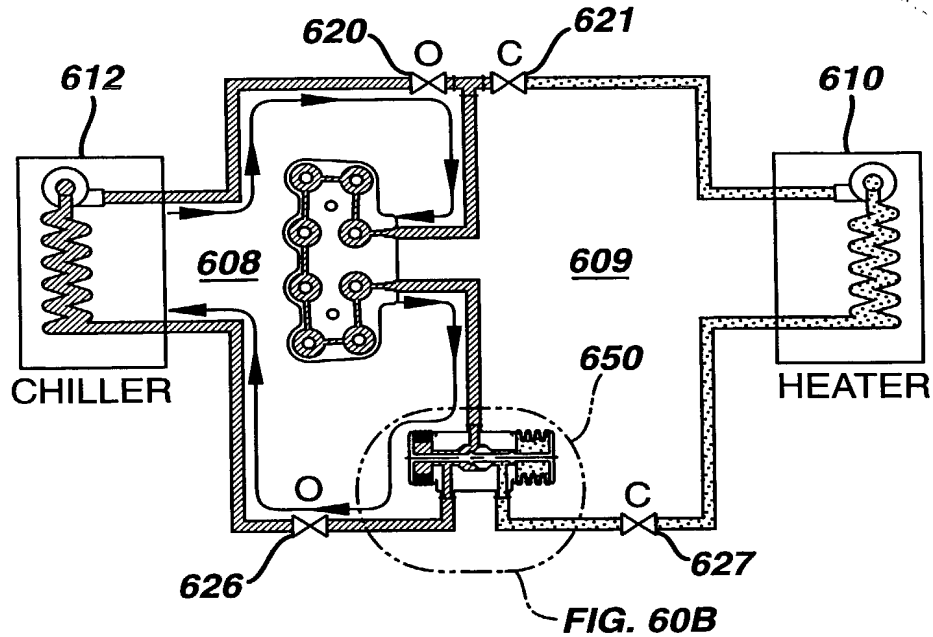
FIG. 57**FIG. 58**

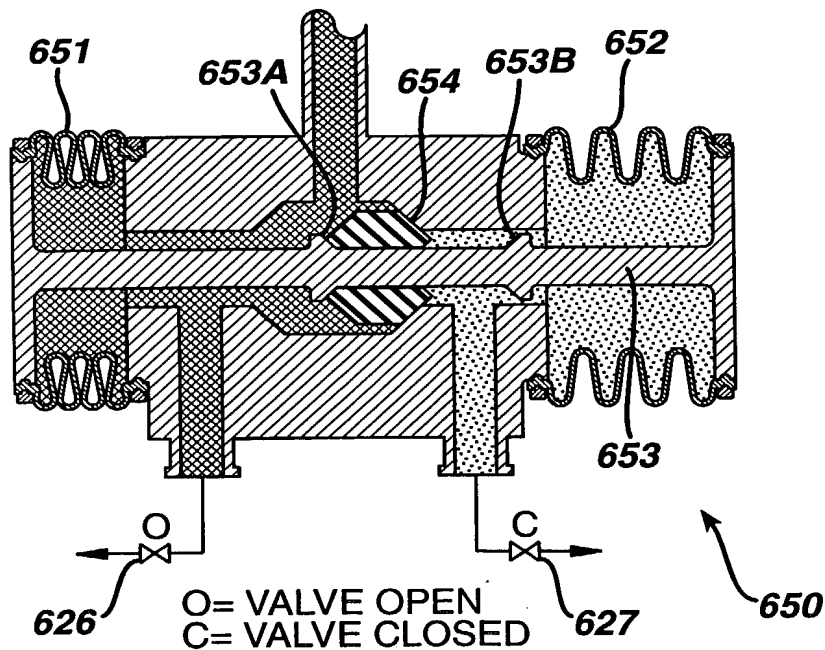
FIG. 59

O= VALVE OPEN
 C= VALVE CLOSED

57/80

FIG. 60A

O= VALVE OPEN
 C= VALVE CLOSED

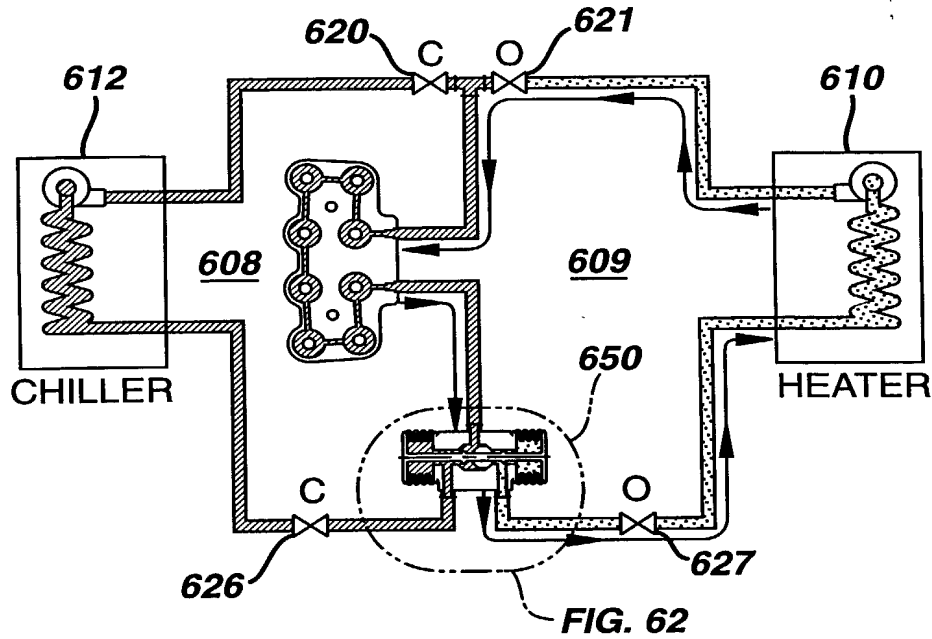
FIG. 60B

O= VALVE OPEN
 C= VALVE CLOSED

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

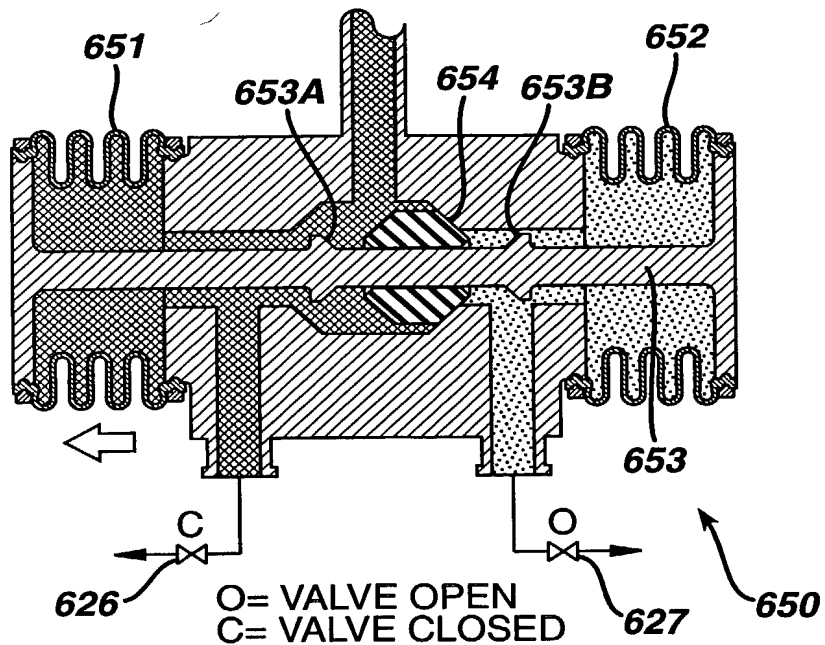
58/80

FIG. 61



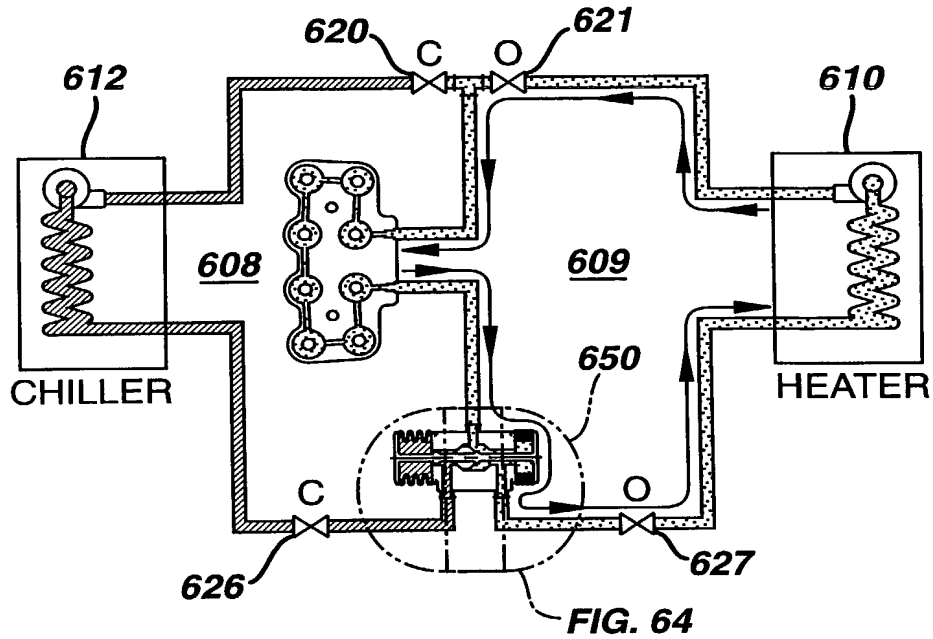
O= VALVE OPEN
 C= VALVE CLOSED

FIG. 62

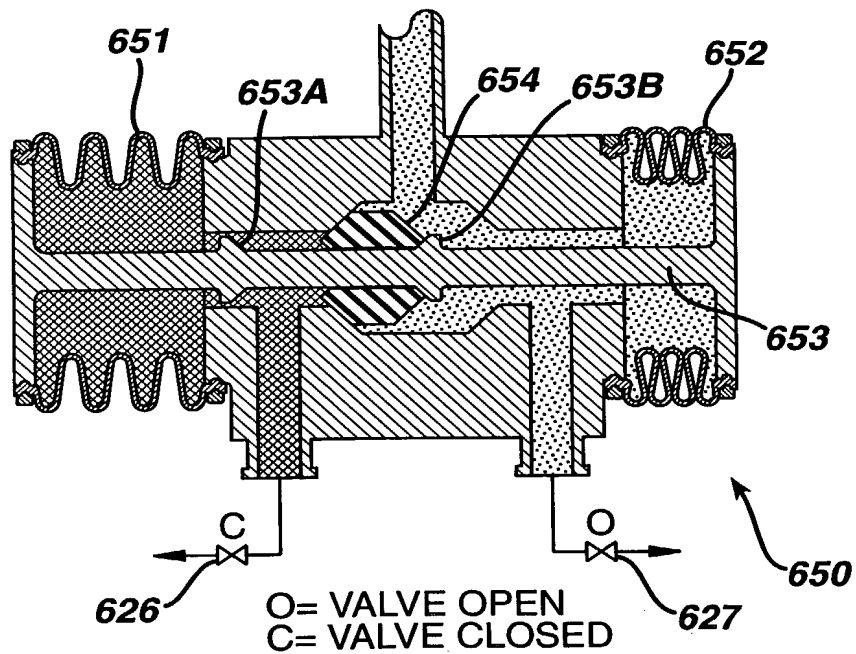


O= VALVE OPEN
 C= VALVE CLOSED

59/80

FIG. 63

O= VALVE OPEN
 C= VALVE CLOSED

FIG. 64

O= VALVE OPEN
 C= VALVE CLOSED

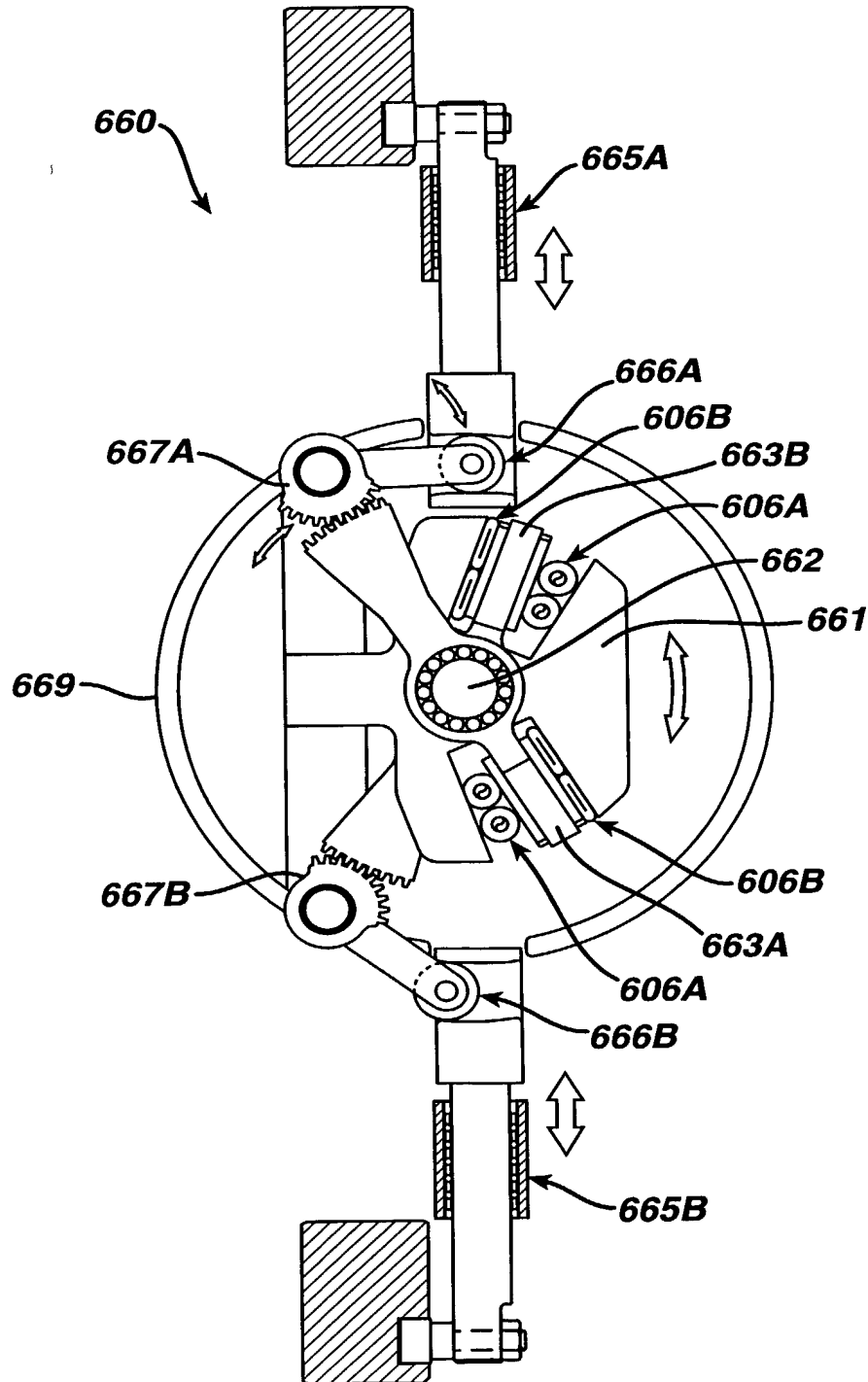
FIG. 65

FIG. 66

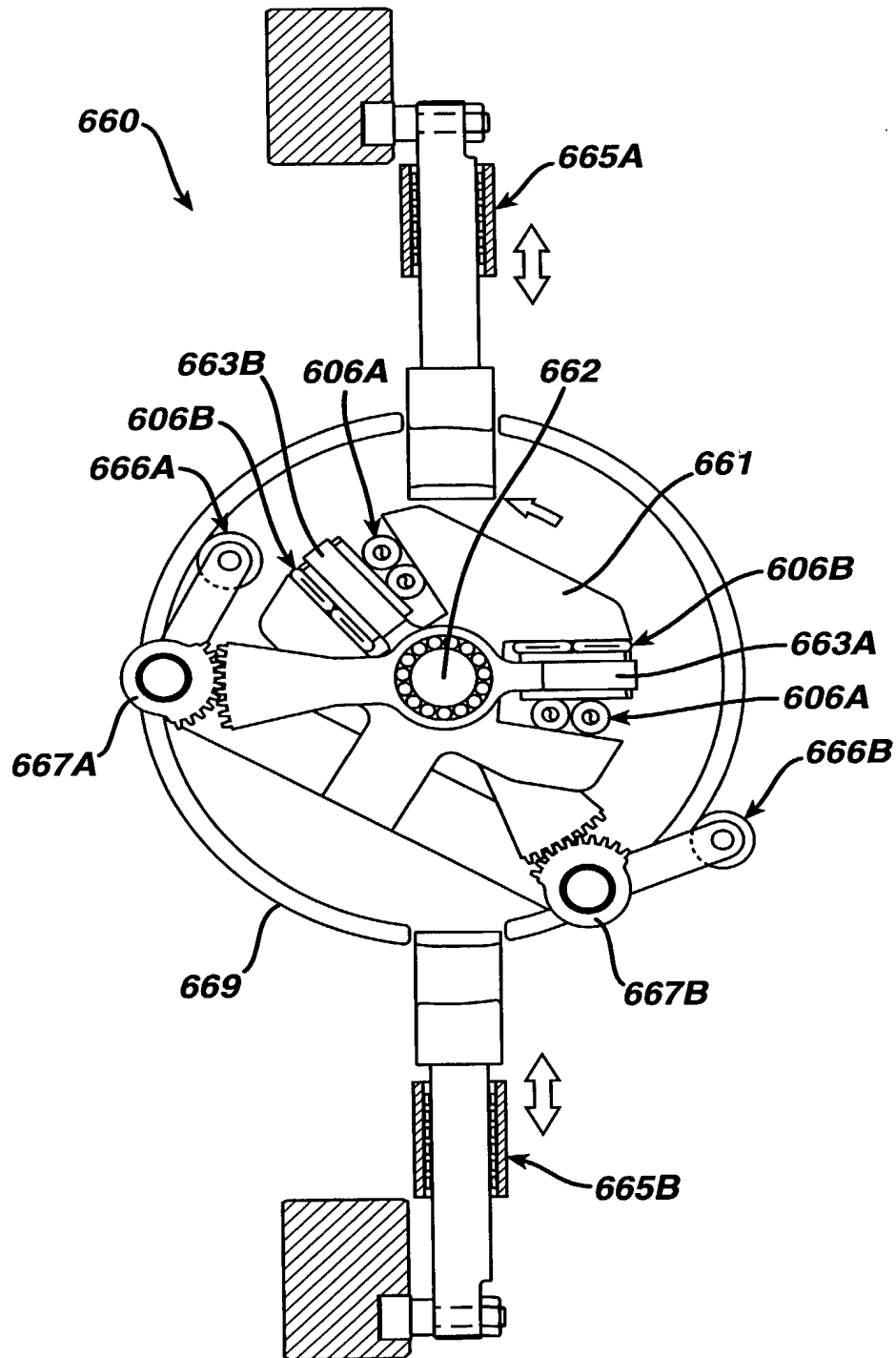
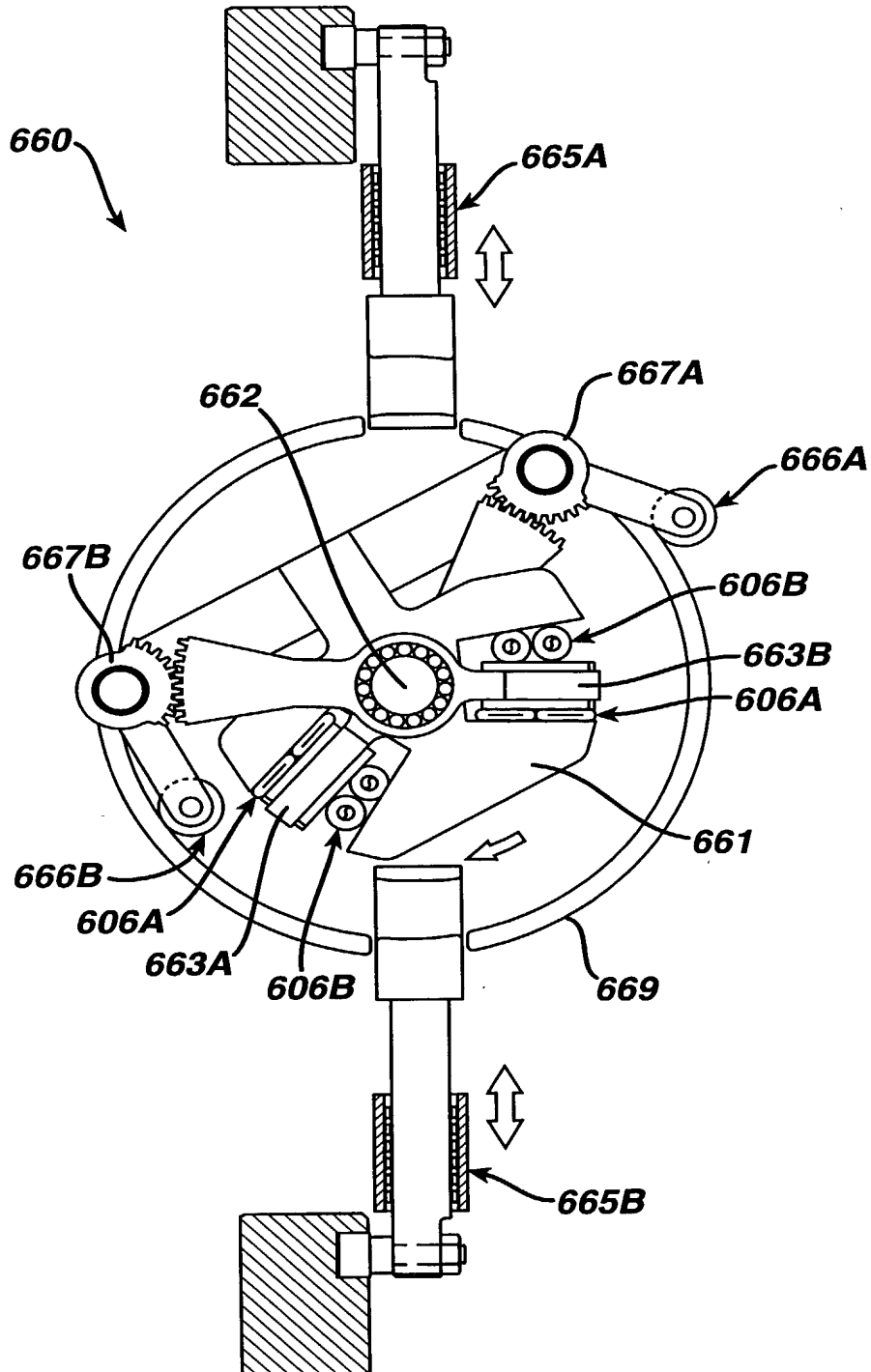
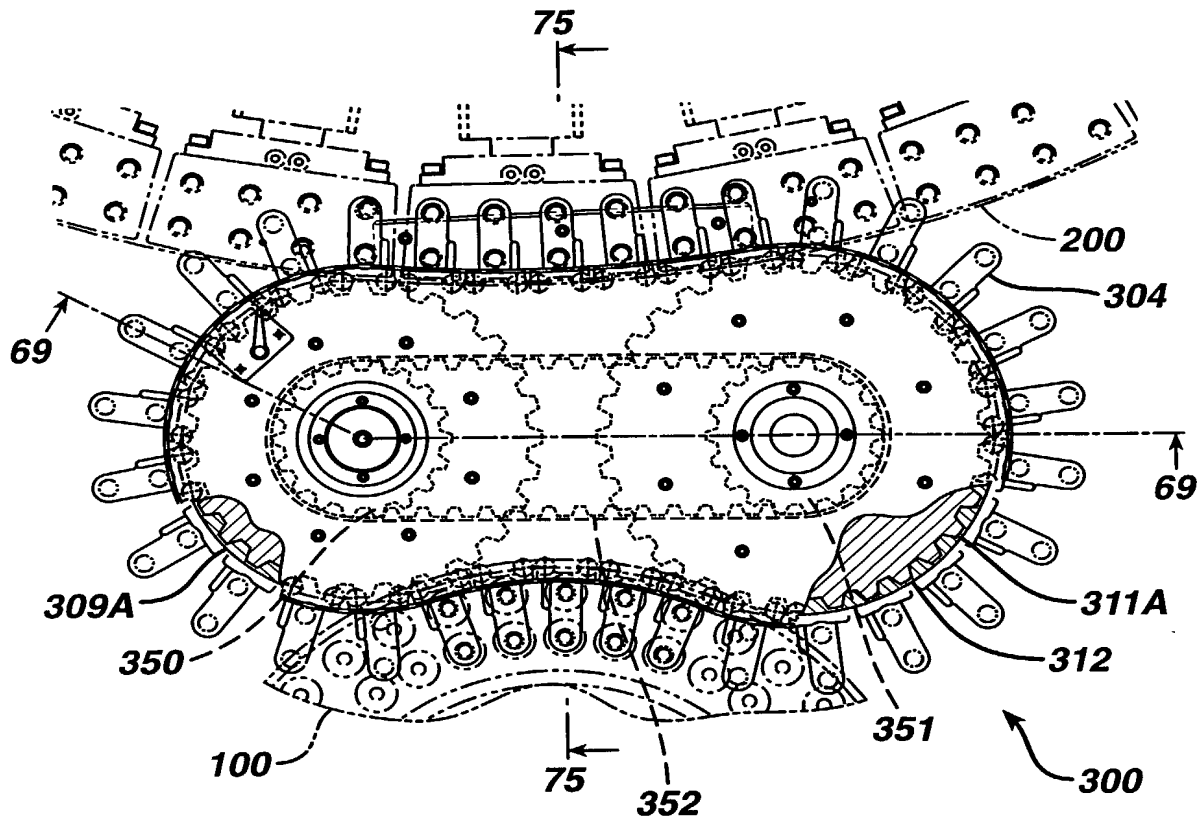


FIG. 67



TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

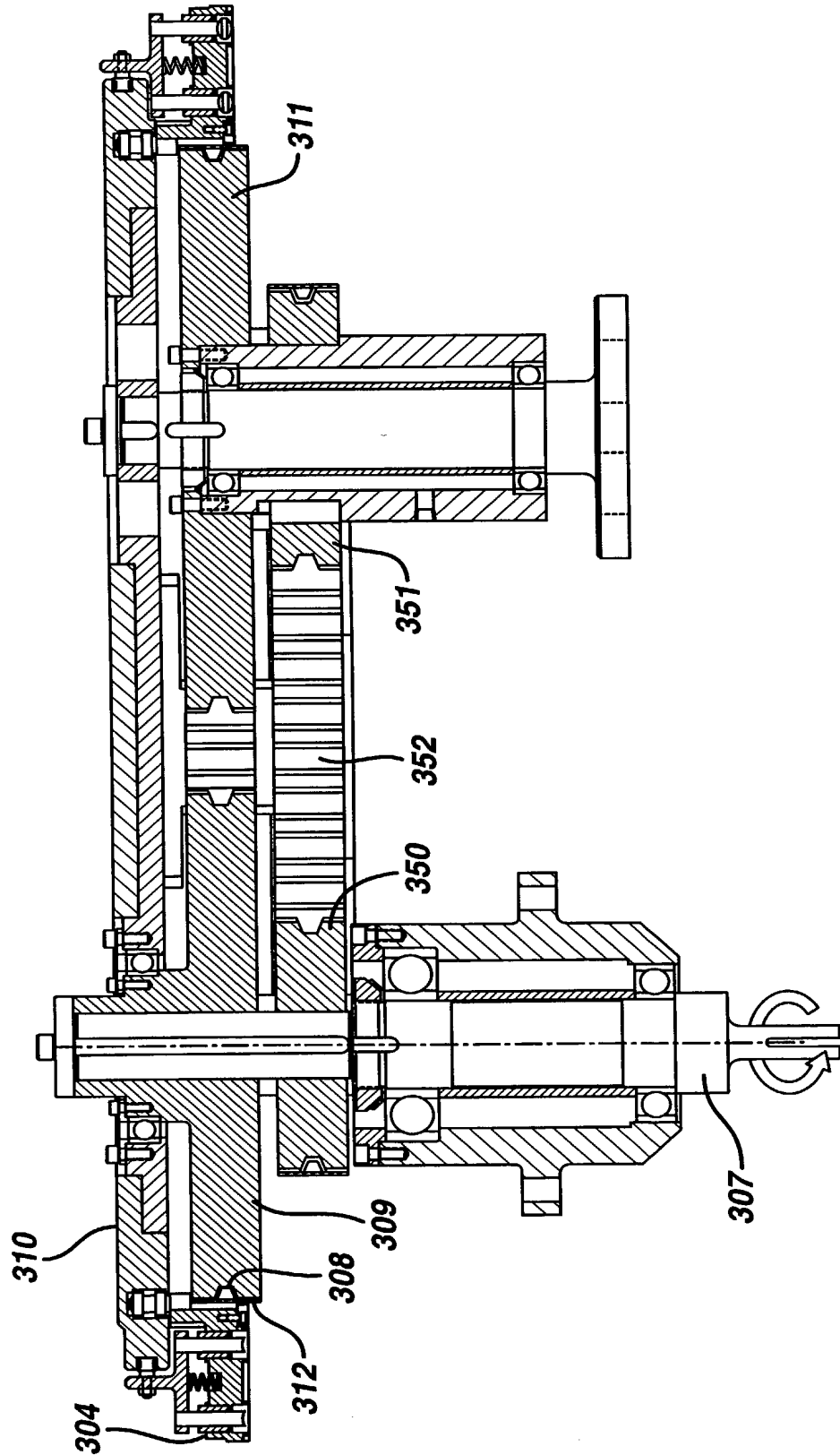
63/80

FIG. 68

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

64/80

FIG. 69



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

65/80

FIG. 72

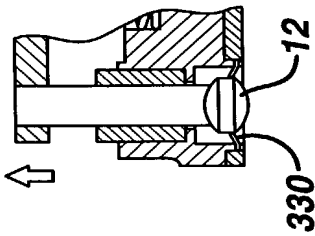


FIG. 73

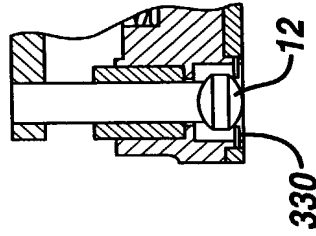


FIG. 74

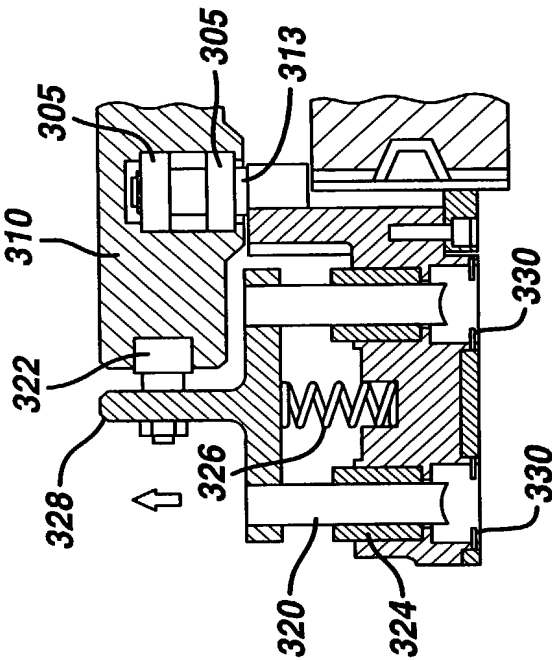
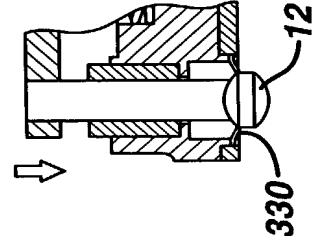


FIG. 70

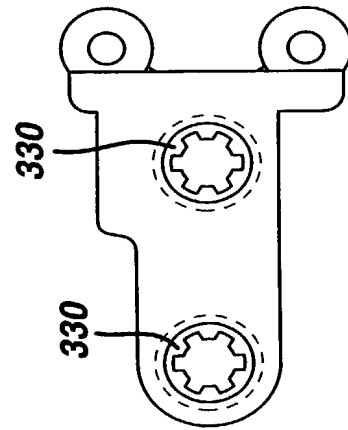


FIG. 71

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

66/80

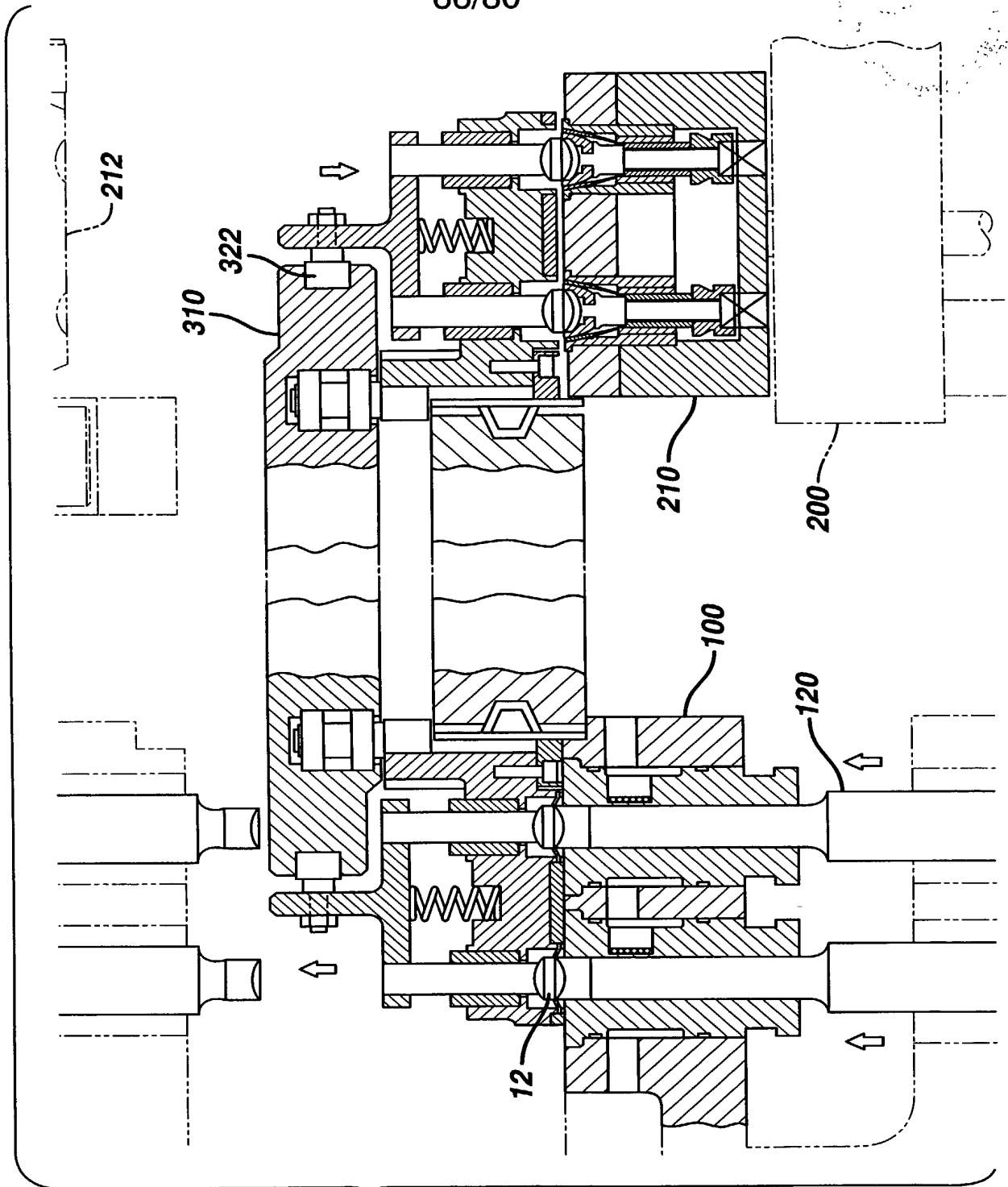
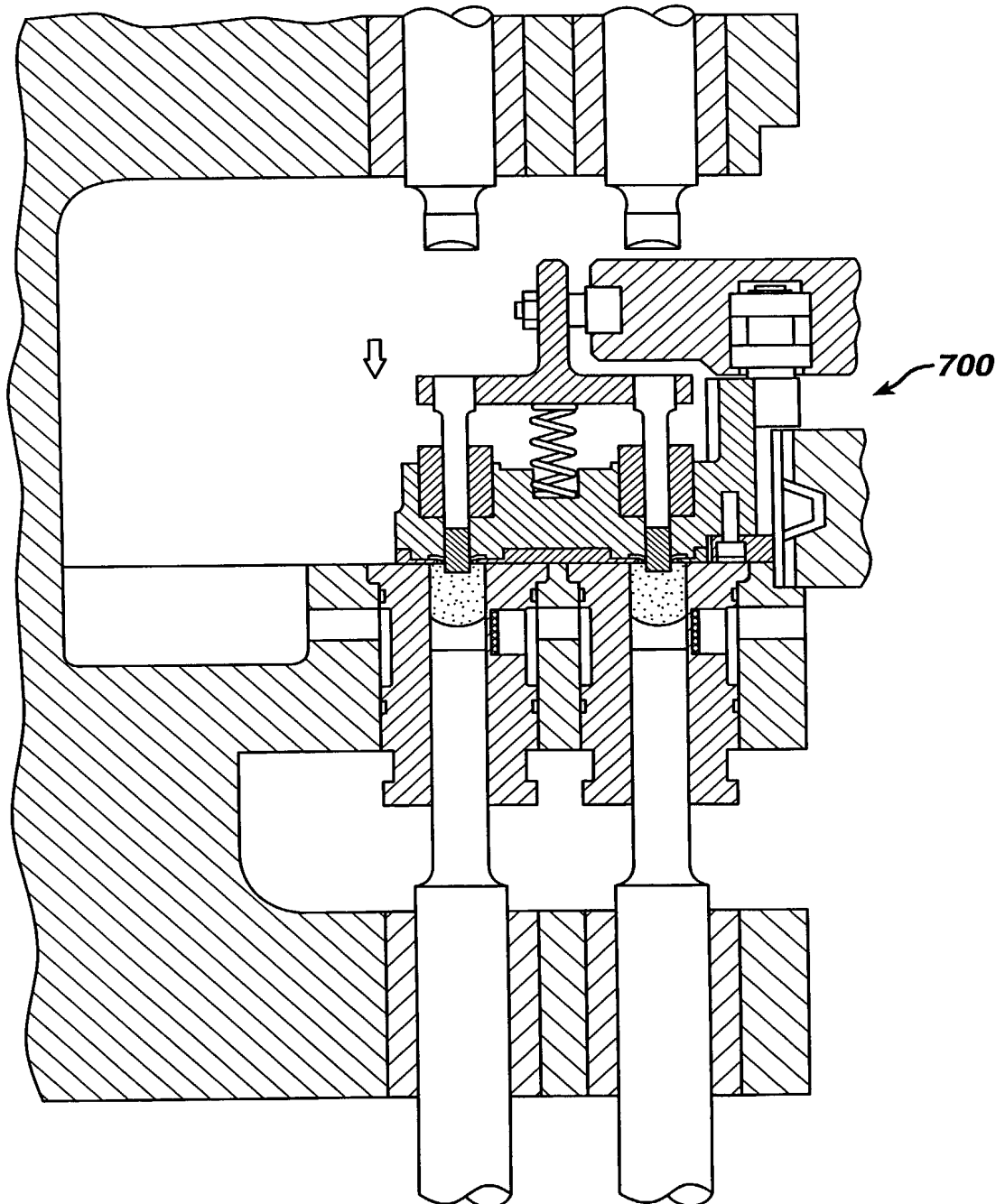
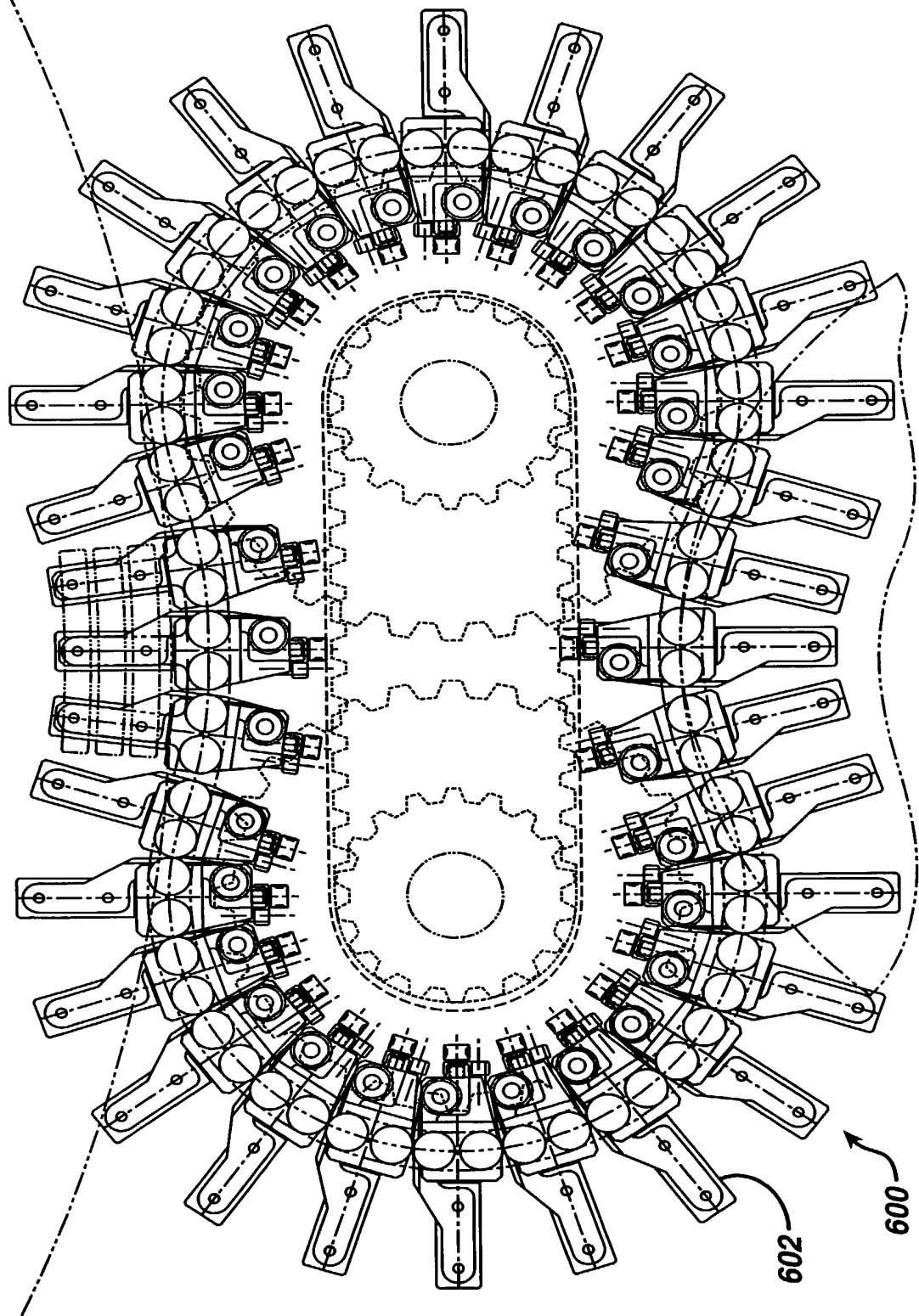
**FIG. 75**

FIG. 76

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

68/80

FIG. 77

TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

69/80

FIG. 78

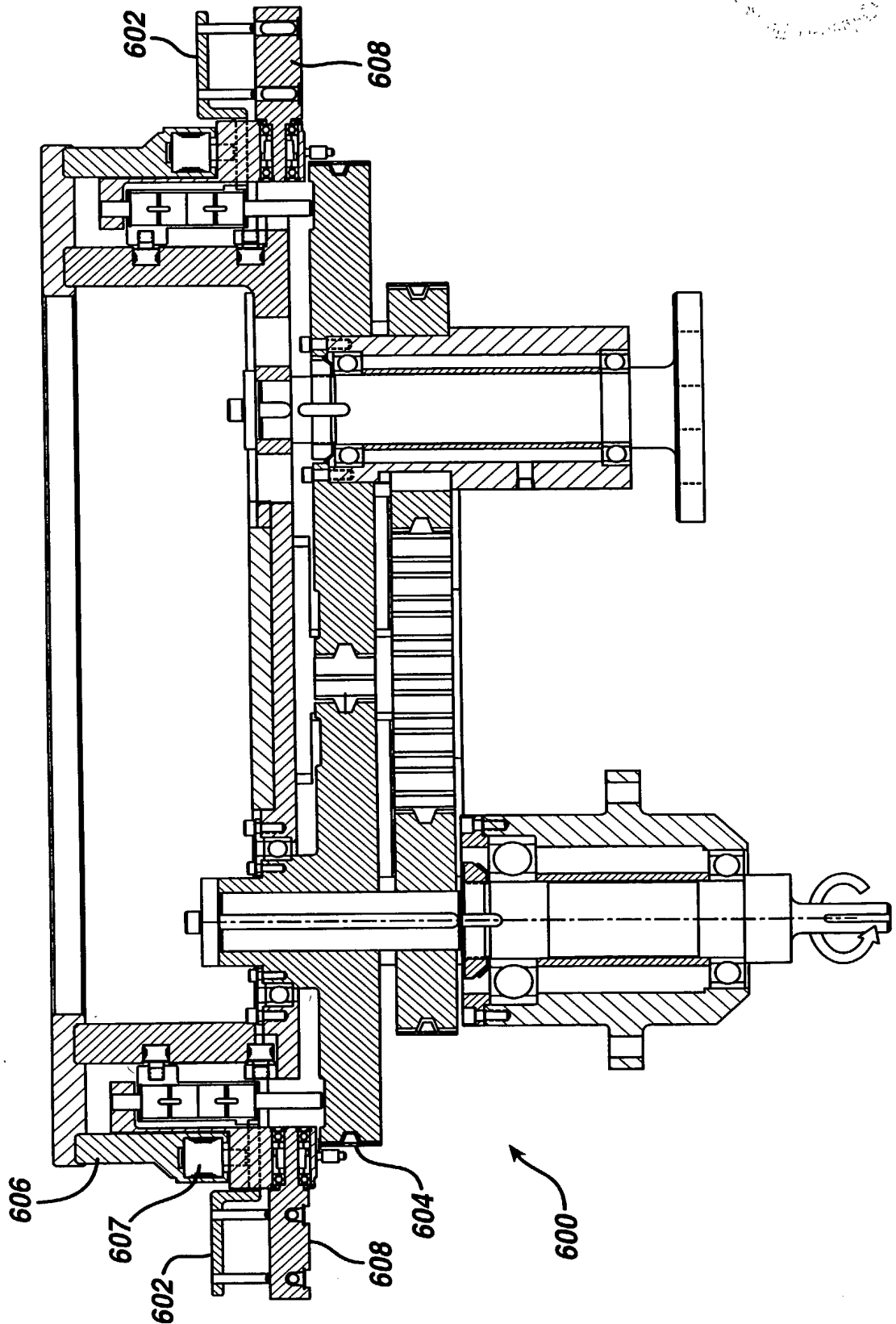


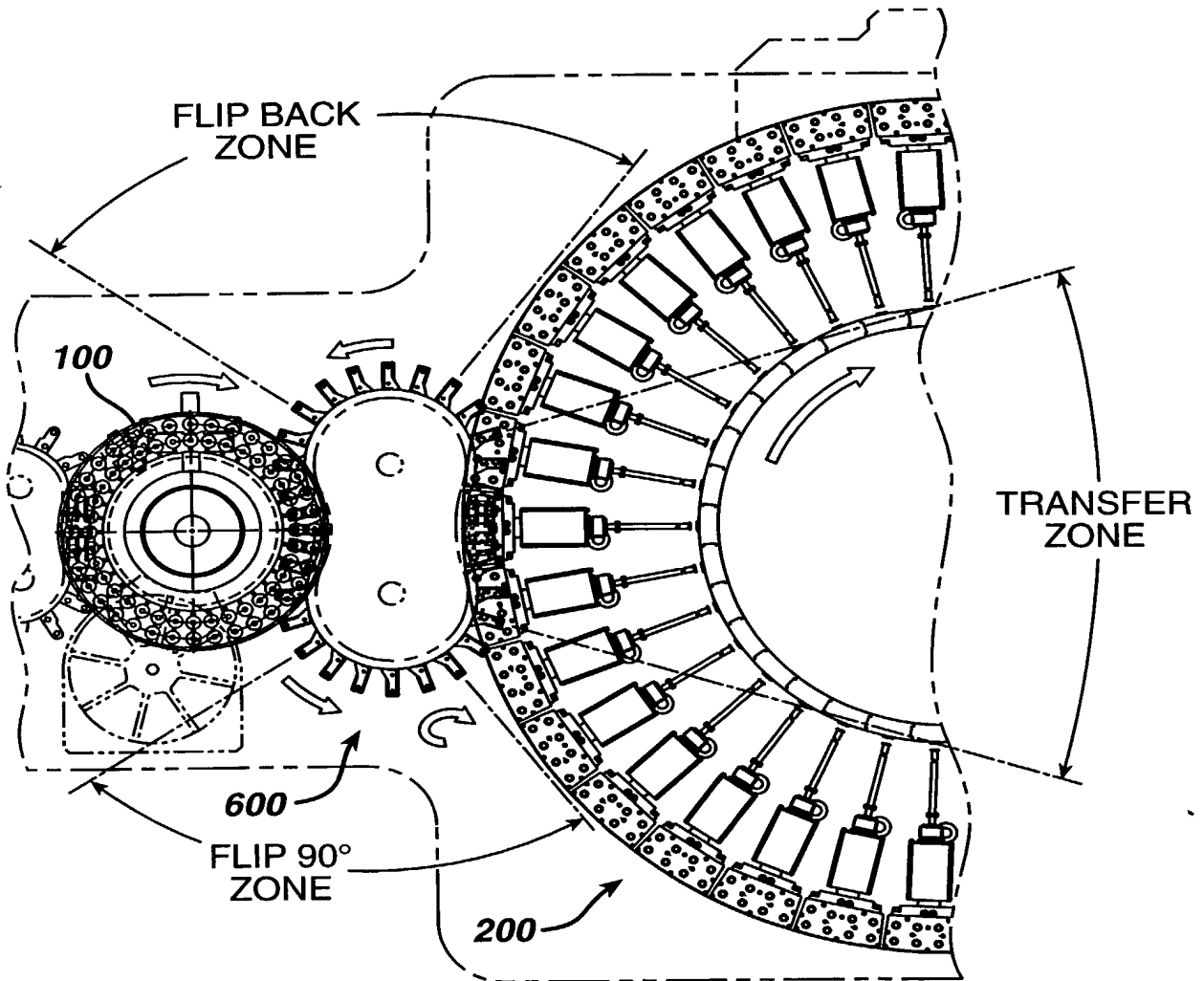
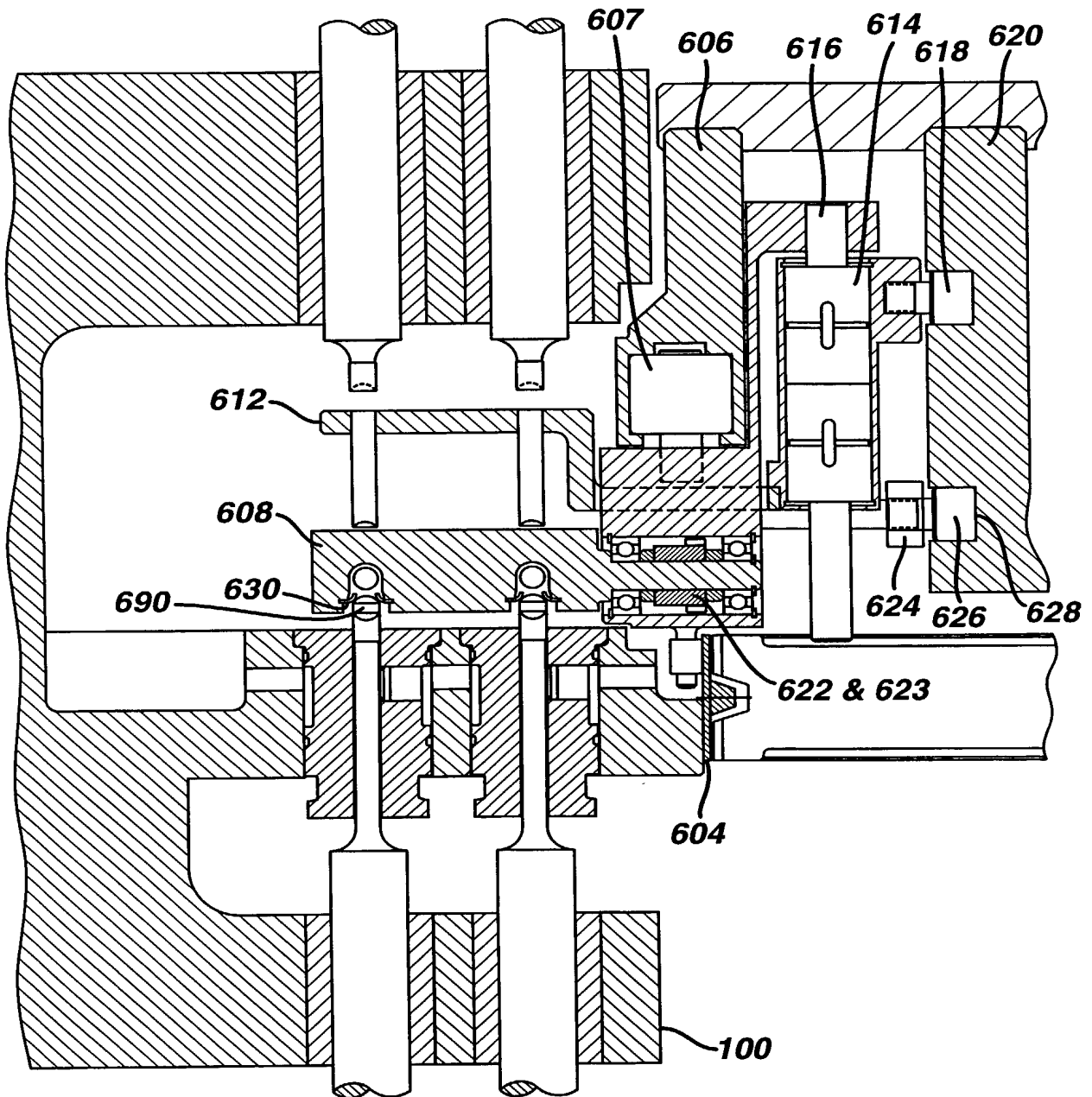
FIG. 79

FIG. 80



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

72/80

FIG. 81D

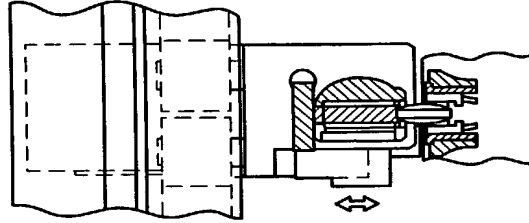


FIG. 81C

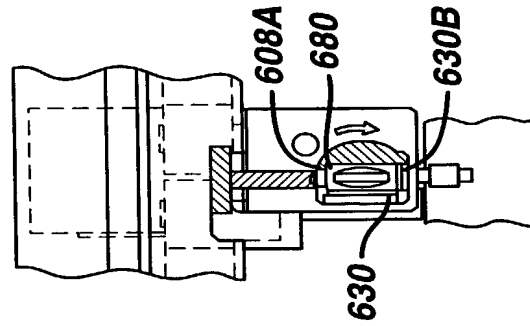


FIG. 81B

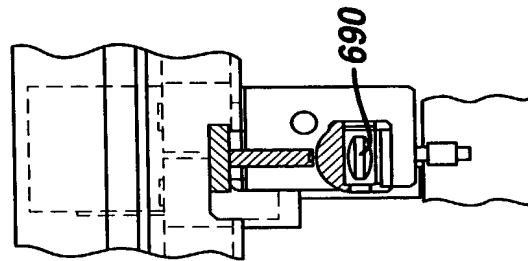
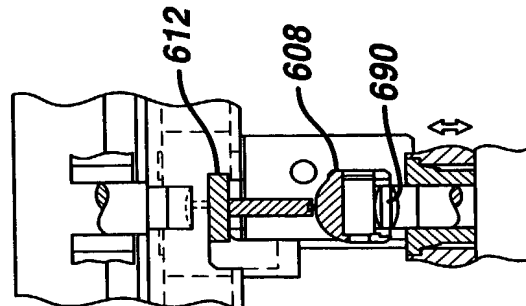
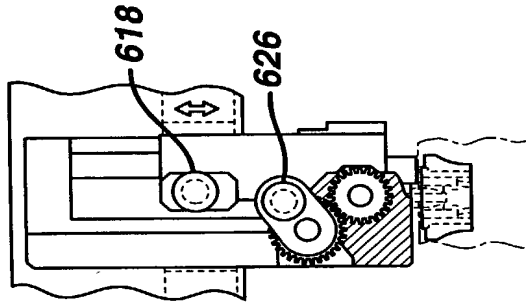
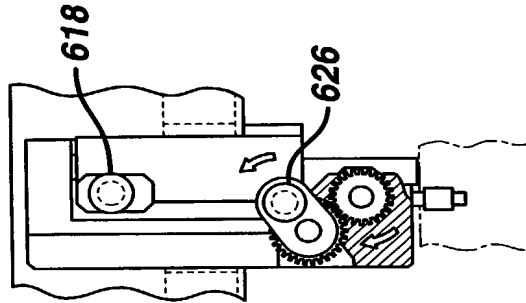
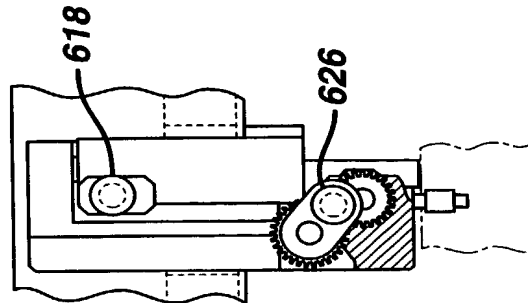


FIG. 81A

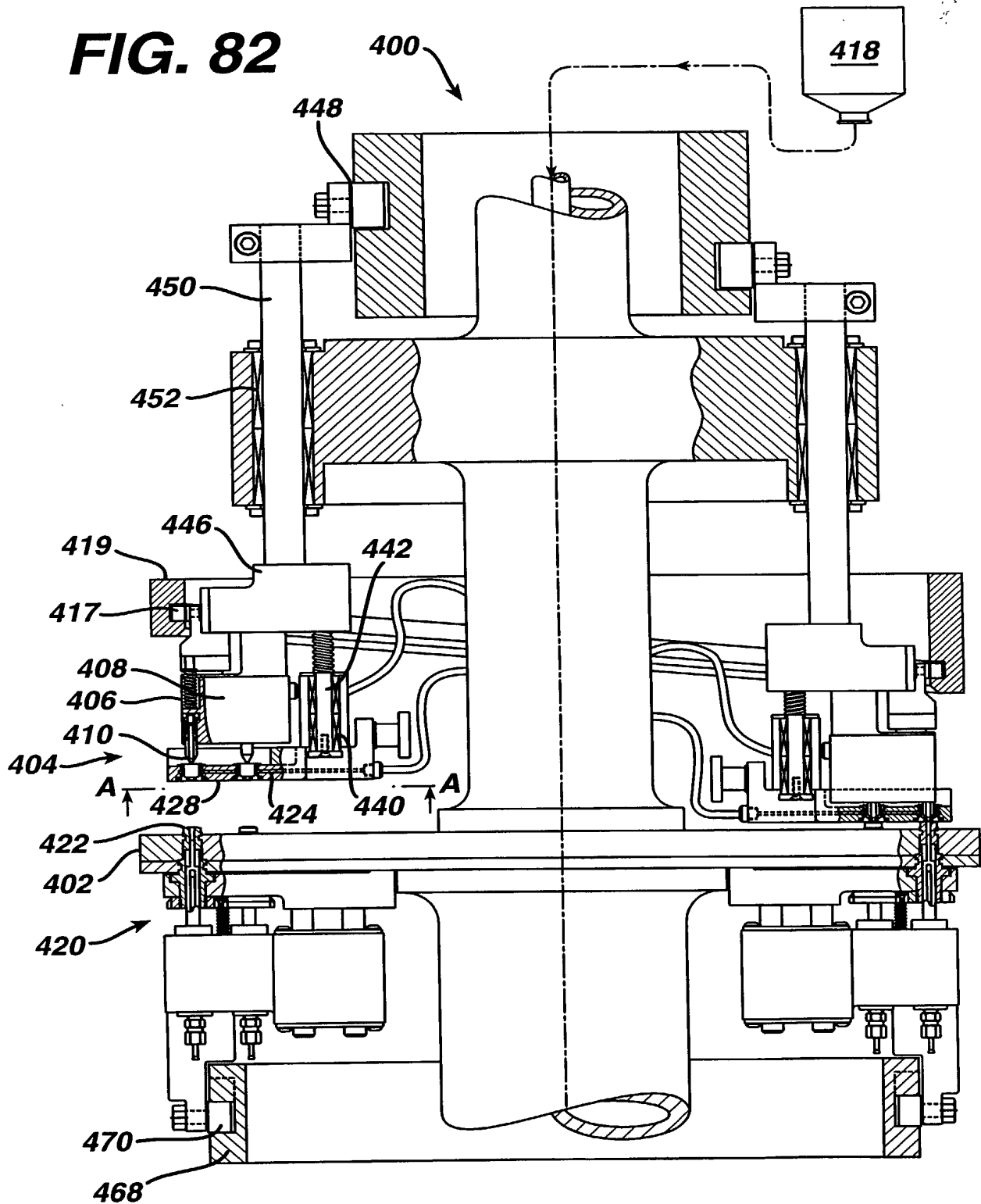


TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 00002777

73/80

FIG. 81G**FIG. 81F****FIG. 81E**

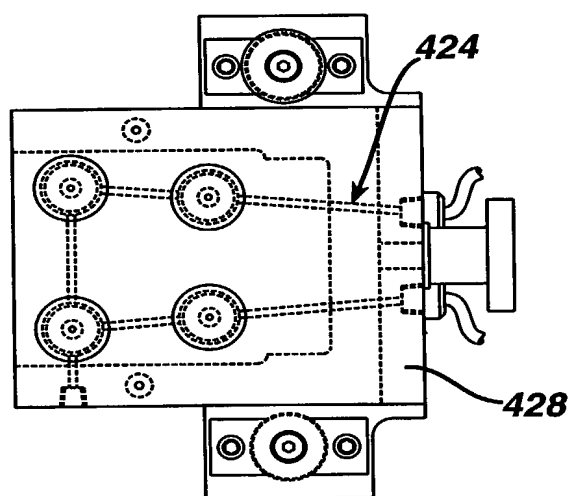
74/80

FIG. 82

09/966939 05/05/02
TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

75/80

FIG. 82A



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

76/80

FIG. 84

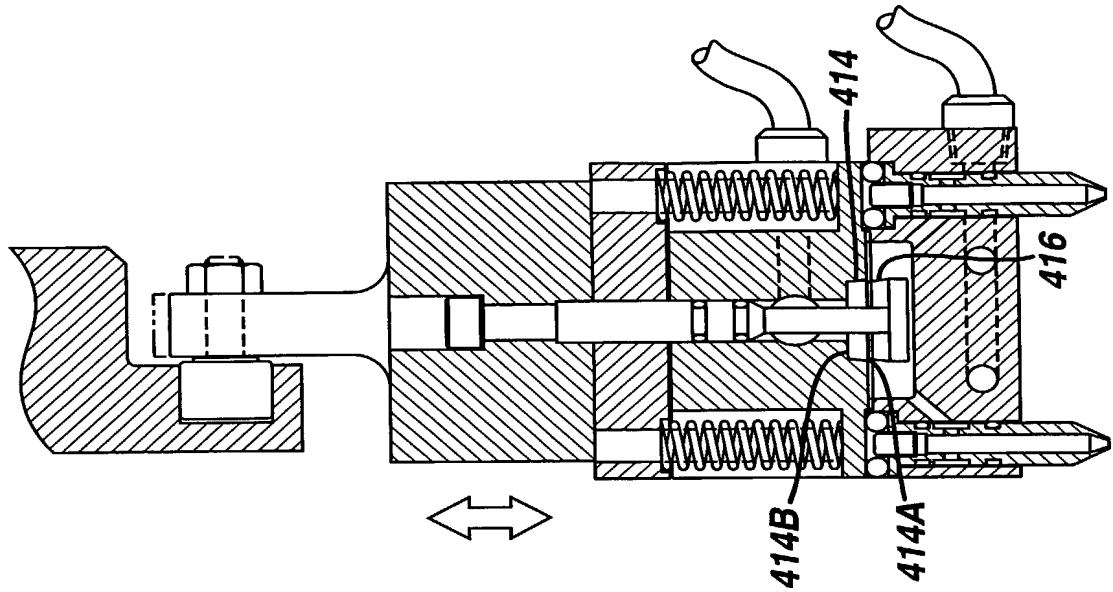
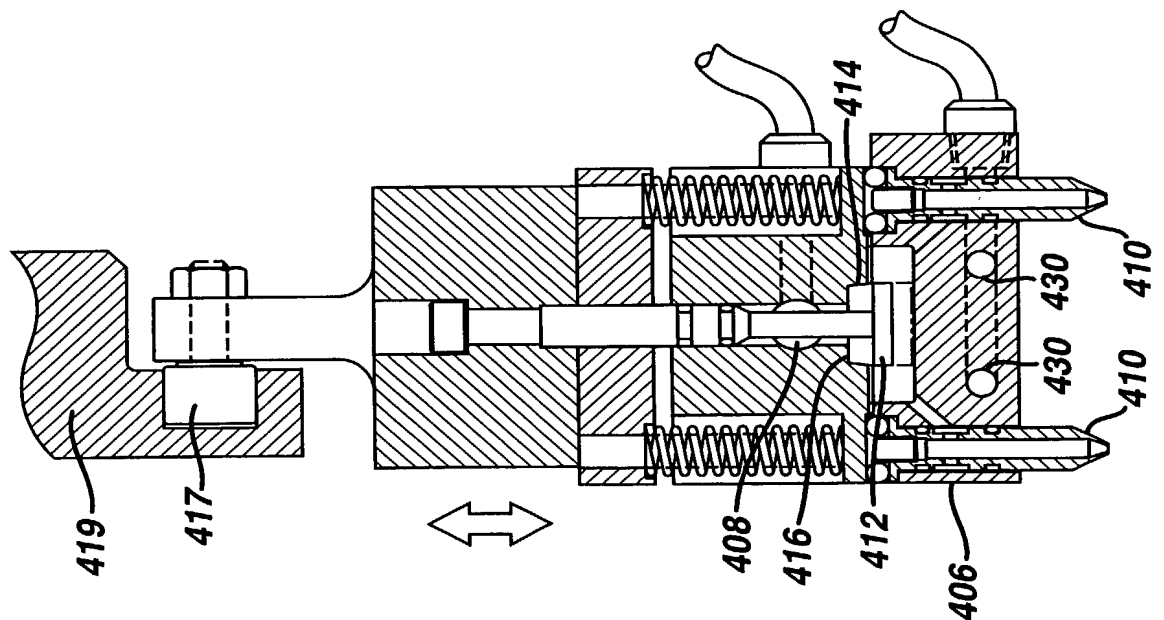


FIG. 83



TITLE: Systems, Methods and Apparatuses for...
 INVENTOR(S): Sowden, et al.
 APP#: 09/966939
 ATTY: S. E. Hayner TEL. #: 732-524-2242
 DOCKET #: MCP-0242 CUST. #: 000027777

77/80

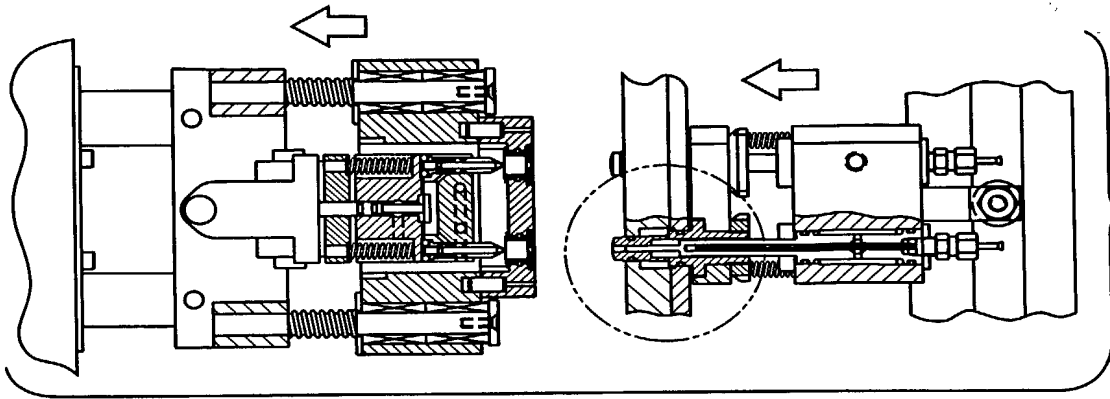


FIG. 85D

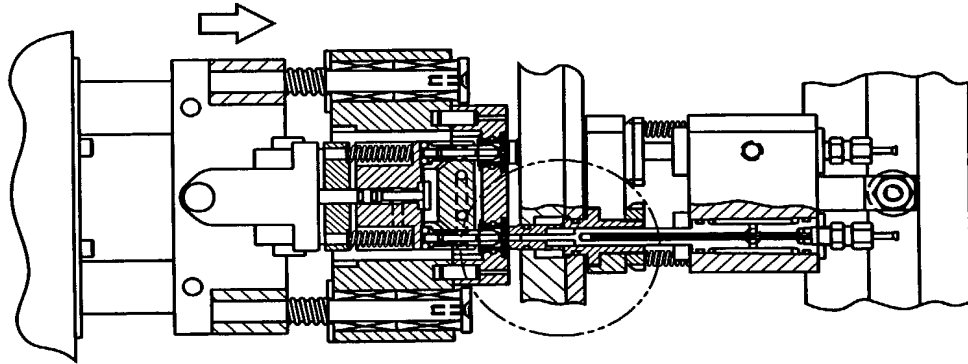


FIG. 85C

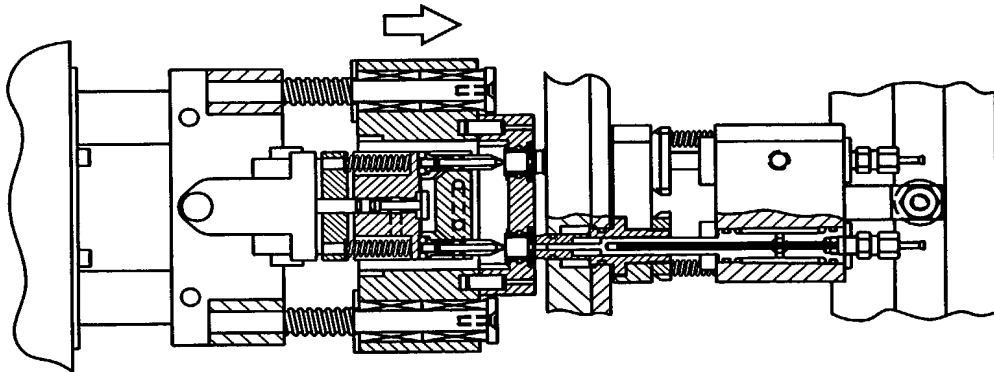


FIG. 85B

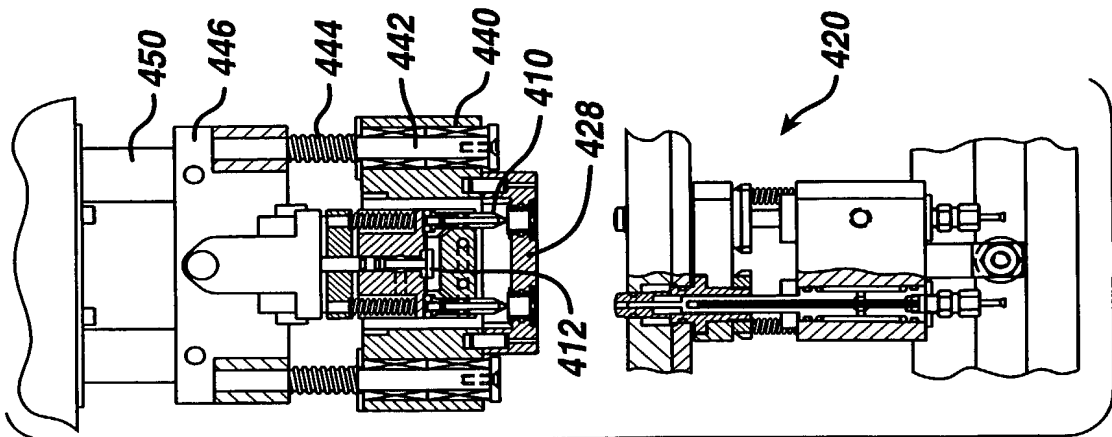
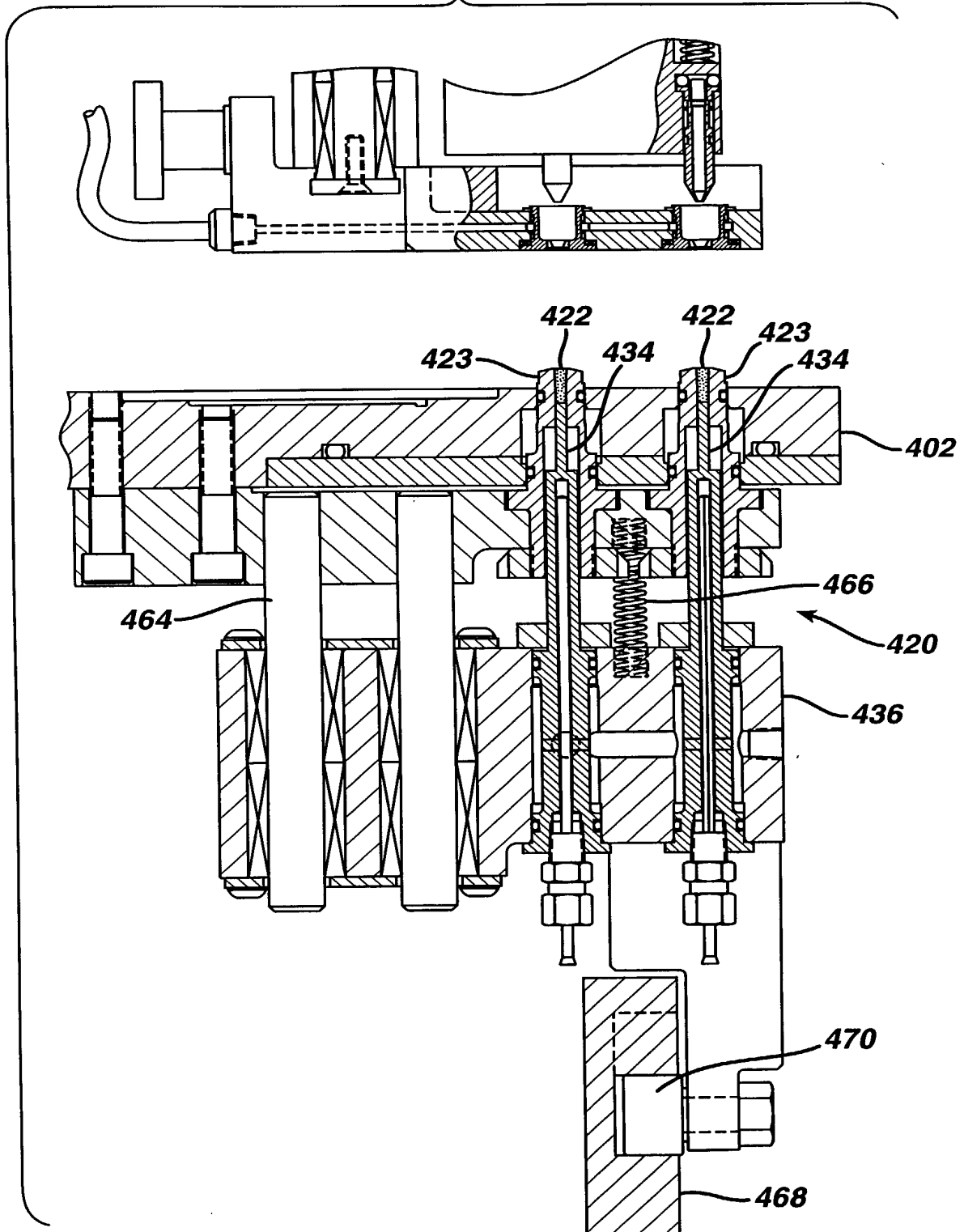


FIG. 85A

78/80

FIG. 86



116774

4137966939 050602

TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

79/80

FIG. 88

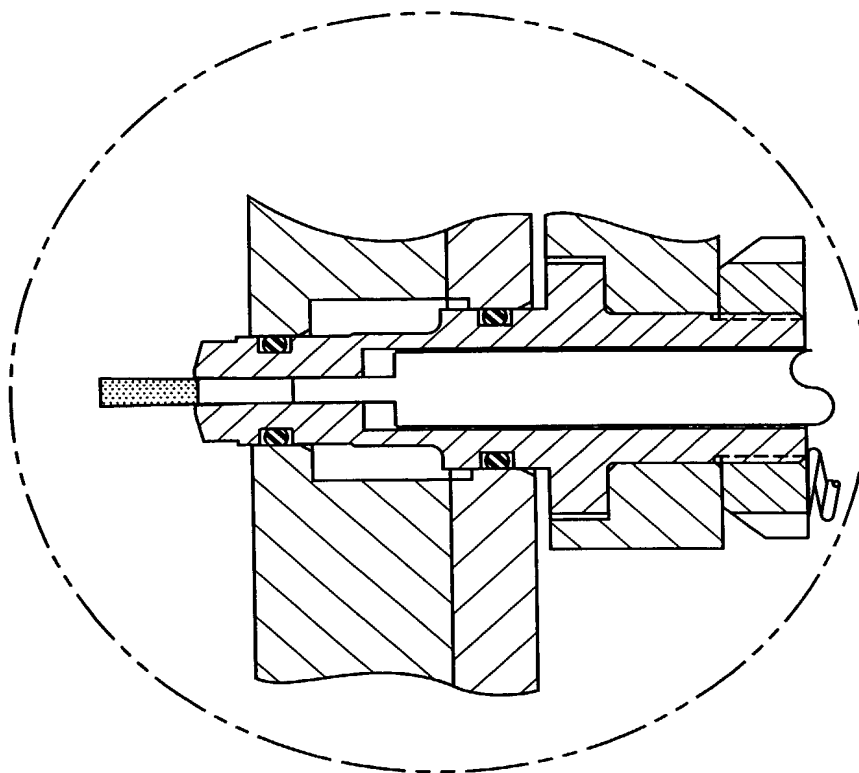
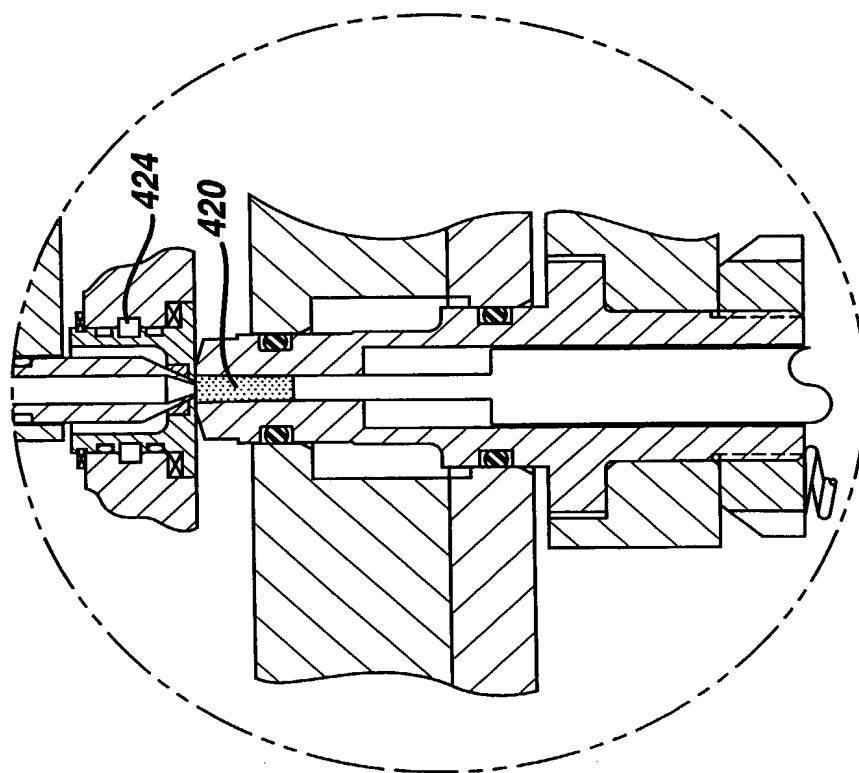


FIG. 87



TITLE: Systems, Methods and Apparatuses for...
INVENTOR(S): Sowden, et al.
APP#: 09/966939
ATTY: S. E. Hayner TEL. #: 732-524-2242
DOCKET #: MCP-0242 CUST. #: 000027777

80/80

FIG. 89